Form 1449 Modified			Application Number	09/893,292	
			Filling Date	June 26, 2001	
			First Named Inventor	Brad A. Armstrong	
			Art Unit	2673	
			Examiner Name	D. Chow	
			Applicant's File Number	F28	

Examiner Initials	Foreign Patent Document No.	Publication Date	Inventor or Applicant Name	Relevent Information	Previously Submitted
		mm-dd-yyyy			
	DE3543890	06-19-1987	THOMSON BRANDT	Footnote 82 -- Special Interest	Yes
	EP0470615	02-12-1992	NINTENDO CO	Footnote 81 -- Special Interest	Yes
	AU645462	01-13-1994	NINTENDO CO	Cited for Related Interest	
	AU8142991	02-13-1992	NINTENDO CO	Cited for Related Interest	
	CA2048167	02-10-1992	NINTENDO CO	Cited for Related Interest	
	CN1058728	02-19-1992	NINTENDO CO	Cited for Related Interest	
	DE69114400	12-14-1995	NINTENDO CO	Cited for Related Interest	
	ES2079529	01-16-1996	NINTENDO CO	Cited for Related Interest	
	GB2247107	02-19-1992	NINTENDO CO	Cited for Related Interest	
	HK30195	03-17-1995	NINTENDO CO	Cited for Related Interest	
	KR9705724	06-11-1997	BURR BROWN CORP	Cited for Related Interest	
	MX9100564	04-01-1992	NINTENDO CO	Cited for Related Interest	
	SG8095	06-16-1995		Cited for Related Interest	
	DE3543890	06-19-1987	THOMSON BRANDT	Footnote 82 -- Special Interest	
	EP0205726	12-30-1986	HAL LAB INC / Nakamura	Footnote 4 -- Special Interest	Yes
	SU739505	12-28-1977	BARANOV ETAL	Cited for Related Interest	Yes
	GB2205941	12-21-1988	IBM CORP	Cited for Related Interest	Yes
	GB2240614	08-07-1991	DZHOLDASBEKOV ETAL	Footnote 6 -- Special Interest	Yes
	GB2113920	08-10-1983	ALPS / Murata et al	Footnote 59 -- Special Interest	Yes
	DE19519941	03-13-1997	WERGEN	Cited for Related Interest	
	EP0438919	07-31-1991	KAYE, ARTHUR	Cited for Related Interest	
	EP0616298	09-21-1994	YANO ETAL	Cited for Related Interest	
	JP5-87760	11-26-1993	MITSUMI / Furukawa	Footnote 48 -- Special Interest	Yes
	JP7302159	11-14-1995	SEGA / Terajima	Footnote 61-- Special Interest	Yes
	DE3031484	11-04-1982	GRUNDIG EMV	Cited for Related Interest	Yes
	DE3634912	04-28-1988	LINK KG	Cited for Related Interest	Yes
	DE4019211	01-03-1991	LUTRON ELECTRONICS	Cited for Related Interest	Yes
	DE19606408	08-28-1997	CONTELEC AG	Cited for Related Interest	Yes
	EP0337458	10-18-1989	NAMCO	Cited for Related Interest	Yes
	EP0579448	01-19-1994	TEXAS INSTRUMENTS	Footnote 84 -- Special Interest	
	EP1080753	03-07-2001	NAMCO	Cited for Related Interest	Yes
	GB2058462	04-08-1981	SHINESU POLYMER	Cited for Related Interest	Yes
	GB2233499	01-09-1991	MITSUBISHI	Cited for Related Interest	Yes
	GB2267392	12-01-1993	PHILLIP COLLINS	Cited for Related Interest	Yes
	GB2308448	06-25-1997	SAMSUNG DISPLAY	Cited for Related Interest	Yes
	JP60175401	09-09-1985	ASAHI CHEMICAL	Cited for Related Interest	Yes
	JP62160623	07-16-1987	KANAZAWA ETAL	Cited for Related Interest	Yes
	JP02158105	06-18-1990	YOKOHAMA RUBBER	Cited for Related Interest	
	JP2158105	06-18-1990	YOKOHAMA RUBBER	Cited for Related Interest	Yes
	JP3108701	05-08-1991	CANON INC	Cited for Related Interest	Yes
	JP04155707	05-28-1992	YOKOHAMA RUBBER	Cited for Related Interest	
	JP4155707	05-28-1992	YOKOHAMA RUBBER	Cited for Related Interest	Yes
	JP5151828	06-18-1993	YOKOHAMA RUBBER	Cited for Related Interest	Yes

Examiner Signature		Date Considered	

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Examiner Initials	Foreign Patent Document No.	Publication Date	Inventor or Applicant Name	Relevent Information	Previously Submitted
		mm-dd-yyyy			
	JP6154422	06-03-1994	NAMCO	Cited for Related Interest	Yes
	JP7281824	10-27-1995	NAMCO	Cited for Related Interest	Yes
	JP09213168	08-15-1997	KOIZUMI ETAL	Cited for Related Interest	Yes
	JP9218737	08-19-1997	NAMCO	Cited for Related Interest	
	JP9223607	08-26-1997	KOIZUMI ETAL	Cited for Related Interest	Yes
	JP11031606	02-02-1999	KOIZUMI ETAL	Cited for Related Interest	Yes
	RU2010369	03-30-1994	SMYSLOV	Cited for Related Interest	Yes
	WO9532776	12-07-1995	FUJIWARA ETAL	Cited for Related Interest	Yes
	WO9957630	11-11-1999	SCIENTIFIC ATLANTA	Cited for Related Interest	Yes
	EP0905725	03-31-1999	EATON CORP	Cited for Related Interest	
	GB2155953	10-02-1985	PERMELEC ELEC.	Cited for Related Interest	
	WO9718508	05-22-1997	SYNAPTICS INC	Footnote 91 -- Special Interest	
	DE4013227	05-29-1991	POULSOM ETAL	Footnote 97 -- Special Interest	Yes
	CA2038894	05-24-1994	PARK	Cited for Related Interest	
	WO9428387	08-08-1995	BROWN ETAL	Cited for Related Interest	
	DE69306678	01-30-1997	TEXAS INSTRUMENTS	Cited for Related Interest	
	JP6058419	03-01-1994	TEXAS INSTRUMENTS	Cited for Related Interest	
	WO9318475	12-31-1996	ARMSTRONG	Cited for Related Interest	
	EP0451676	10-16-1991	Nokia Unterhaltungselektro	Footnote 85 -- Special Interest	
	DE4011636	10-24-1991	Nokia Unterhaltungselektro	Cited for Related Interest	
	JP4230918	08-19-1992	Nokia Unterhaltungselektro	Cited for Related Interest	
	AU544234	05-23-1985	EVENTOFF	Cited for Related Interest	
	CA1143030	03-15-1983	EVENTOFF	Cited for Related Interest	
	CA1153801	09-13-1983	EVENTOFF	Cited for Related Interest	
	CA1161921	02-07-1984	EVENTOFF	Cited for Related Interest	
	CA1153577	09-13-1983	EVENTOFF	Cited for Related Interest	
	CA1153802	09-13-1983	EVENTOFF	Cited for Related Interest	
	CA1153803	09-13-1983	EVENTOFF	Cited for Related Interest	
	DE3044384	08-27-1981	EVENTOFF	Cited for Related Interest	
	FR2470435	05-29-1981	EVENTOFF	Cited for Related Interest	
	GB2064873	06-17-1981	EVENTOFF	Cited for Related Interest	
	GB2134320	08-08-1984	EVENTOFF	Cited for Related Interest	
	GB2134321	08-08-1984	EVENTOFF	Cited for Related Interest	
	GB213422	08-08-1984	EVENTOFF	Cited for Related Interest	
	IT1143185	10-22-1986	EVENTOFF	Cited for Related Interest	
	JP1976280	10-17-1995	EVENTOFF	Cited for Related Interest	
	JP5196524	08-06-1993	EVENTOFF	Cited for Related Interest	
	JP6058276	08-03-1994	MASUDA MASANORI	Cited for Related Interest	
	JP2108444	11-06-1996	ITOYAMA SEIJI	Cited for Related Interest	
	JP5197381	08-06-1993	EVENTOFF	Cited for Related Interest	
	JP6101567	12-12-1994	RIKEN CORP	Cited for Related Interest	
	JP1125871	05-18-1989	EVENTOFF	Cited for Related Interest	
	JP1993198	11-22-1995	EVENTOFF	Cited for Related Interest	
	JP5022398	03-29-1993	CANON INC	Cited for Related Interest	
	NL8006409	06-16-1981	EVENTOFF	Cited for Related Interest	
	SE452925	12-21-1987	EVENTOFF	Cited for Related Interest	
	SE8008205	05-27-1981	EVENTOFF	Cited for Related Interest	
	JP1710832	11-11-1992	EVENTOFF	Cited for Related Interest	
	JP2049029	10-26-1990	NIPPON TELEGR	Cited for Related Interest	
	JP56108279	08-27-1981	EVENTOFF	Cited for Related Interest	
	WO9304348	03-04-1993	HILTON	Cited for Related Interest	

Examiner Signature		Date Considered	

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Examiner Initials	Foreign Patent Document No.	Publication Date	Inventor or Applicant Name	Relevent Information	Previously Submitted
		mm-dd-yyyy			
	DE3687571	03-04-1993	HILTON	Cited for Related Interest	
	EP0227432	07-01-1987	HILTON	Cited for Related Interest	
	JP1875027	09-26-1994	HILTON	Cited for Related Interest	
	JP62177426	08-04-1987	HILTON	Cited for Related Interest	
	GB2133957	08-01-1984	BOUGHTON	Cited for Related Interest	
	CN1202254	12-16-1998	SYNAPTICS INC	Cited for Related Interest	
	EP0861462	09-02-1998	SYNAPTICS INC	Cited for Related Interest	
	JP11511580	10-05-1999	SYNAPTICS INC	Cited for Related Interest	
	AU557120	12-04-1986	BOUGHTON	Cited for Related Interest	
	AU2379484	08-02-1984	BOUGHTON	Cited for Related Interest	
	ZA8400356	08-29-1984	BOUGHTON	Cited for Related Interest	
	EP0835676	04-15-1998	SEGA ENTERPRISES	Cited for Related Interest	Yes
	CA1203738	04-29-1986	CAE ELECTRONICS	Cited for Related Interest	
	DE4004760	08-22-1991	DZHOLDASBEKOV ETAL	Cited for Related Interest	
	JP61292734	12-23-1986	HAL LAB INC.	Cited for Related Interest	
	EP0295368	12-21-1988	IBM CORP	Cited for Related Interest	
	JP4077335	12-08-1992	NKK CORP	Cited for Related Interest	
	JP63318623	12-27-1991	IBM (US)	Cited for Related Interest	
	DE19803627	08-05-1999	BALTUS RENE	Cited for Related Interest	
	JP9223607	08-26-1997	KOIZUMI ETAL	Cited for Related Interest	
	WO9522828	08-24-1995	INTERLINK ELECTRONIC	Cited for Related Interest	
	EP663648	07-19-1995	IBM CORP.	Cited for Related Interest	
	JP5151828	06-18-1993	YOKOHAMA RUBBER	Cited for Related Interest	
	EP0169624	01-29-1986	ASAHI ETAL	Cited for Related Interest	
	GB2159953	12-11-1985	STC PLC	Cited for Related Interest	
	EP0050231	12-06-1983	BOSCH-SIEMENS	Cited for Related Interest	
	JP5326217	10-12-1993	MITSUMI / Furukawa	Cited for Related Interest	
	JP 63-029113	08-16-1989	YAMAHA CORP.	Cited for Related Interest	

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Form 1449A Modified			Application Number	09/893,292		
			Filing Date	June 26, 2001		
			First Named Inventor	Brad A. Armstrong		
			Art Unit	2673		
			Examiner Name	D. Chow		
			Applicant's File Number	F28		

Examiner Initials	US Patent Number	Publication Date	Patentee or Applicant Name	Relevent Information	US Class	Previously Submitted
	2430284	11/4/1947	EVERS	Cited for Related Interest	341/187	Yes
	3296882	1/10/1967	DURAND	Cited for Related Interest	74/471	
	3611068	10/5/1971	FUJITA	Footnote 23 -- Special Interest	338/2	Yes
	3693425	9/26/1972	STARITA ETAL	Cited for Related Interest	73/862.044	Yes
	3710050	1/9/1973	RICHARDS	Cited for Related Interest	200/61.43	
	3771037	11/6/1973	BAILEY	Cited for Related Interest	318/580	Yes
	3806471	4/23/1974	MITCHELL	Footnote 80 -- Special Interest	252/519	Yes
	3921445	11/25/1975	HILL ETAL	Cited for Related Interest	73/862	Yes
	3952173	4/20/1976	TSUJI ETAL	Cited for Related Interest	200/511	Yes
	3988556	10/26/1976	HYODO	Cited for Related Interest	200/511	Yes
	3993884	11/23/1976	KONDUR ETAL	Footnote 75 -- Special Interest	200/295	
	4099409	7/11/1978	EDMOND	Cited for Related Interest	73/862	Yes
	4133012	1/2/1979	TAKAMIYA ETAL	Footnote 77 -- Special Interest	360/90	
	4158759	6/19/1979	MASON	Footnote 41 -- Special Interest	219/720	Yes
	4164634	8/14/1979	GILANO	Cited for Related Interest	200/5A	
	4216467	8/5/1980	COLSTON	Cited for Related Interest	341/20	Yes
	4224602	9/23/1980	ANDERSON ETAL	Cited for Related Interest	340/321	Yes
	4246452	1/20/1981	CHANDLER	Footnote 62 -- Special Interest	200/5A	Yes
	4268815	5/19/1981	EVENTOFF	Cited for Related Interest	338/69	Yes
	4276538	6/30/1981	EVENTOFF	Cited for Related Interest	338/69	Yes
	4297542	10/27/1981	SHUMWAY	Cited for Related Interest	200/6A	Yes
	4301337	11/17/1981	EVENTOFF	Cited for Related Interest	200/5A	Yes
	4313113	1/26/1982	THORNBURG	Footnote 28 -- Special Interest	345/159	Yes
	4314228	2/2/1982	EVENTOFF	Cited for Related Interest	338/114	Yes
	4314227	2/2/1982	EVENTOFF	Cited for Related Interest	338	
	4315238	2/9/1982	EVENTOFF	Cited for Related Interest	338	Yes
	4348142	9/7/1982	FIGOUR	Cited for Related Interest	414/2	Yes
	4349708	9/14/1982	ASHER	Cited for Related Interest	200/6A	
	4369663	1/25/1983	VENTURELLO ETAL	Cited for Related Interest	73/862.043	Yes
	4369971	1/25/1983	CHANG ETAL	Cited for Related Interest	463/2	
	4385841	5/31/1983	KRAMER	Cited for Related Interest	368/29	
	4406217	9/27/1983	OOTA	Footnote 42 -- Special Interest	99/280	Yes
	4408103	10/4/1983	SMITH	Cited for Related Interest	200/6A	
	4414537	11/8/1983	GRIMES	Cited for Related Interest	341/20	Yes
	4419653	12/6/1983	WAIGAND	Cited for Related Interest	338/114	
	4420808	12/13/1983	DIAMOND ETAL	Cited for Related Interest	701/4	
	4469330	9/4/1984	ASHER	Cited for Related Interest	463/38	Yes
	4469930	9/4/1984	TAKAHASHI	Cited for Related Interest	219/121.72	
	4489302	12/18/1984	EVENTOFF	Cited for Related Interest	338/99	
	4490587	12/25/1984	MILLER	Cited for Related Interest	200/5	
	4491325	1/1/1985	Bersheim	Footnote 91 -- Special Interest	463/38	
	4504059	3/12/1985	Weinrieb	Cited for Related Interest	273/148	
	4514600	4/30/1985	LENTZ	Cited for Related Interest	200/5R	
	4536746	8/20/1985	GOBELI	Cited for Related Interest	341/20	Yes

Examiner Signature		Date Considered	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Examiner Initials	US Patent Number	Publication Date	Patentee or Applicant Name	Relevent Information	US Class	Previously Submitted
	4536746	8/20/1985	GOBELI	Footnote 26 -- Special Interest	341/20	
	4546347	10/8/1985	KIRSCH	Cited for Related Interest	345/166	
	4552360	11/12/1985	BROMLEY ETAL	Cited for Related Interest	463/38	Yes
	4555960	12/3/1985	KING	Footnote 1 -- Special Interest	74/471XY	Yes
	4573682	3/4/1986	Mayon	Cited for Related Interest	273/148	
	4604509	8/5/1986	CLANCY ETAL	Cited for Related Interest	200/513	Yes
	4604502	8/5/1986	Thomas	Footnote 92 -- Special Interest	200/6A	
	4615252	10/7/1986	YAMAUCHI ETAL	Cited for Related Interest	84/687	Yes
	4630823	12/23/1986	Grant	Cited for Related Interest	273/148	
	4647916	3/3/1987	BOUGHTON	Cited for Related Interest	345/156	
	4667271	5/19/1987	WILSON	Cited for Related Interest	361/725	
	4670743	6/2/1987	ZEMKE	Cited for Related Interest	345/157	Yes
	4673919	6/16/1987	KATAOKA	Cited for Related Interest	341/11	Yes
	4680577	7/14/1987	STRAAYER ETAL	Footnote 67 -- Special Interest	345/160	Yes
	4684089	8/4/1987	LELY	Cited for Related Interest	248/124.1	Yes
	4687200	8/18/1987	SHIRAI	Cited for Related Interest	463/37	
	4694231	9/15/1987	ALVITE	Cited for Related Interest	318/568.11	Yes
	4724292	2/9/1988	ICHIKAWA	Cited for Related Interest	219/708	
	4733214	3/22/1988	ANDRESEN	Cited for Related Interest	219/708	Yes
	4745301	5/17/1988	MICHALCHIK	Cited for Related Interest	307/119	
	4766271	8/23/1988	MITSUHASHI ETAL	Cited for Related Interest	200/512	Yes
	4786895	11/22/1988	CASTANEDA	Cited for Related Interest	345/160	Yes
	4811608	3/14/1989	HILTON	Cited for Related Interest	73/862.043	Yes
	4855704	8/8/1989	BETZ	Cited for Related Interest	336/132	Yes
	4858930	8/22/1989	SATO	Footnote 54 -- Special Interest	463/23	Yes
	4866542	9/12/1989	SHIMADA ETAL	Cited for Related Interest	386/69	Yes
	4866544	9/12/1989	HASHIMOTO	Cited for Related Interest	360/40	
	4879556	11/7/1989	DUIMEL	Footnote 16 -- Special Interest	341/20	
	4910503	3/20/1990	BRODSKY	Cited for Related Interest	345/161	Yes
	4909514	3/20/1990	Tano	Footnote 94 -- Special Interest	273/148	
	4924216	5/8/1990	LEUNG	Footnote 11 -- Special Interest	463/38	Yes
	4933670	6/12/1990	WISLOCKI	Footnote 10 -- Special Interest	345/167	Yes
	4935728	6/19/1990	KLEY	Footnote 5 -- Special Interest	345/161	Yes
	4962448	10/9/1990	DEMAIO ETAL	Cited for Related Interest	700/17	
	4975676	12/4/1990	GREENHALGH	Cited for Related Interest	338/114	Yes
	5038144	8/6/1991	Kaye	Cited for Related Interest	341/176	
	5059958	10/22/1991	JACOBS ETAL	Cited for Related Interest	345/158	Yes
	5065146	11/12/1991	GARRETT	Footnote 13 -- Special Interest	345/161	Yes
	5068498	11/26/1991	ENGEL	Cited for Related Interest	200/6A	
	5103404	4/7/1992	MCINTOSH	Cited for Related Interest	318/568	Yes
	5116051	5/26/1992	MONCRIEF ETAL	Cited for Related Interest	463/36	
	5128671	7/7/1992	THOMAS	Cited for Related Interest	341/20	Yes
	5132658	7/21/1992	DAUENHAUER ETAL	Cited for Related Interest	338/92	Yes
	5139439	8/18/1992	SHIE	Cited for Related Interest	439/359	Yes
	5142931	9/1/1992	MENAHEM	Footnote 7 -- Special Interest	74/471XY	Yes
	5164697	11/17/1992	KRAMER	Footnote 58 -- Special Interest	338/69	Yes
	5168221	12/1/1992	HOUSTON	Cited for Related Interest	324/207	Yes
	5182796	1/26/1993	SHIBAYAMA ETAL	Cited for Related Interest	345/841	
	5183998	2/2/1993	HOFFMAN ETAL	Cited for Related Interest	219/492	
	5184830	2/9/1993	OKADA ETAL	Footnote 51 -- Special Interest	463/29	Yes
	5189355	2/23/1993	LARKINS ETAL	Cited for Related Interest	318/685	Yes
	5196782	3/23/1993	D'ALEO ETAL	Cited for Related Interest	323/320	Yes

Examiner Signature		Date Considered	

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	5200597	4/6/1993	EASTMAN	Cited for Related Interest	235/455	Yes
	5203563	4/20/1993	LOPER	Footnote 64 -- Special Interest	273/148B	Yes
	5207426	5/4/1993	INOUE ET AL	Footnote 20 -- Special Interest	463/36	Yes
	5222400	6/29/1993	HILTON	Footnote 88 -- Special Interest	73/862	
	5231386	7/27/1993	BRANDENBURG ETAL	Footnote 18 -- Special Interest	345/174	Yes
	5237311	8/17/1993	MAILEY ETAL	Cited for Related Interest	345/167	Yes
	5250930	10/5/1993	YOSHIDA ETAL	Footnote 15 -- Special Interest	345/168	
	5252952	10/12/1993	FRANK ETAL	Footnote 3 -- Special Interest	345/157	Yes
	5259626	11/9/1993	HO	Cited for Related Interest	463/37	
	5264768	11/23/1993	GREGORY ETAL	Footnote 32 -- Special Interest	318/561	
	5271290	12/21/1993	FISCHER	Cited for Related Interest	74/471XY	
	D342740	12/28/1993	PARKER	Cited for Related Interest	D14/218	Yes
	5278557	1/11/1994	STOKES ETAL	Cited for Related Interest	341/34	Yes
	5280926	1/25/1994	SOGGE ETAL	Cited for Related Interest	277/641	
	5287089	2/15/1994	PARSONS	Cited for Related Interest	345/156	Yes
	5286024	2/15/1994	WINBLAD	Cited for Related Interest	273/148B	
	5293158	3/8/1994	SOMA	Cited for Related Interest	345/161	Yes
	5294121	3/15/1994	CHIANG	Footnote 52 -- Special Interest	273/148B	Yes
	5298919	3/29/1994	CHANG	Cited for Related Interest	345/163	Yes
	5311779	5/17/1994	TERUO	Cited for Related Interest	73/726	Yes
	5313229	5/17/1994	GILLIGAN ETAL	Cited for Related Interest	345/157	
	5315204	5/24/1994	PARK	Footnote 50 -- Special Interest	310/339	Yes
	5327201	7/5/1994	COLEMAN ETAL	Footnote 70 -- Special Interest	399/342	
	5329276	7/12/1994	HIRABAYASHI	Cited for Related Interest	340/870.31	Yes
	5333057	7/26/1994	MORIKAWA ETAL	Cited for Related Interest	358/296	
	5345807	9/13/1994	BUTTS ETAL	Footnote 73 -- Special Interest	73/1.15	
	5349371	9/20/1994	FONG	Cited for Related Interest	345/166	
	5355352	10/11/1994	KOBAYASHI ETAL	Footnote 37 -- Special Interest	368/281	Yes
	5364108	11/15/1994	ESNOUF	Cited for Related Interest	368/281	Yes
	5365494	11/15/1994	LYNCH	Footnote 39 -- Special Interest	368/10	Yes
	5376913	12/27/1994	PINE ETAL	Cited for Related Interest	338/114	Yes
	5386084	1/31/1995	RISKO	Cited for Related Interest	174/52.3	
	5389757	2/14/1995	SOULIERE	Footnote 57 -- Special Interest	200/345	
	5391083	2/21/1995	ROEBUCK ETAL	Cited for Related Interest	174/52.3	Yes
	D355901	2/28/1995	BRADLEY	Cited for Related Interest	D14/410	Yes
	5394168	2/28/1995	SMITH, III, ETAL	Cited for Related Interest	345/156	
	5396235	3/7/1995	MAESHIMA	Footnote 92 -- Special Interest	341/34	Yes
	5396225	3/7/1995	OKADA ETAL	Footnote 55 -- Special Interest	463/40	Yes
	5399823	3/21/1995	MCCUSKER	Footnote 74 -- Special Interest	200/521	
	5419613	5/30/1995	Wedeking	Cited for Related Interest	297/217	
	5440237	8/8/1995	BROWN ETAL	Footnote 83 -- Special Interest	324/601	Yes
	5452615	9/26/1995	HILTON	Cited for Related Interest	73/862	
	5457478	10/10/1995	FRANK	Cited for Related Interest	345/158	Yes
	5459487	10/17/1995	BOUTON	Cited for Related Interest	463/37	
	5467108	11/14/1995	MIMLITCH	Cited for Related Interest	345/161	
	5487053	1/23/1996	BEISWENGER ETAL	Cited for Related Interest	368/69	
	5499041	3/12/1996	BRANDENBURG ETAL	Footnote 33 -- Special Interest	345/174	
	5508719	4/16/1996	GERVAIS	Cited for Related Interest	345/157	
	5510812	4/23/1996	O'MARA ETAL	Footnote 38 -- Special Interest	345/161	Yes
	5512892	4/30/1996	Corballis	Footnote 93 -- Special Interest	341/22	
	5517211	5/14/1996	KWANG-CHIEN	Cited for Related Interest	345/166	
	5528265	6/18/1996	Harrison	Cited for Related Interest	345/158	

Examiner Signature		Date Considered	

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Examiner Initials	US Patent Number	Publication Date	Patentee or Applicant Name	Relevent Information	US Class	Previously Submitted
	5530455	6/25/1996	GILLICK ETAL	Cited for Related Interest	345/163	
	5541622	7/30/1996	ENGLE ETAL	Footnote 34 -- Special Interest	345/161	
	5543781	8/6/1996	GANUCHEAU, JR. ETAL	Footnote 68 -- Special Interest	340/7.52	
	5550339	8/27/1996	HAUGH	Cited for Related Interest	200/5A	Yes
	5552799	9/3/1996	HASHIGUCHI	Footnote 53 -- Special Interest	345/3.2	Yes
	5551693	9/3/1996	GOTO ETAL	Cited for Related Interest	463/37	
	5555004	9/10/1996	ONO ETAL	Cited for Related Interest	345/161	Yes
	5559432	9/24/1996	LOGUE	Cited for Related Interest	324/207.17	
	5565891	10/15/1996	ARMSTRONG	Footnote 90 -- Special Interest	345/167	Yes
	5564560	10/15/1996	MINELLI ETAL	Footnote 60 -- Special Interest	200/516	Yes
	5589828	12/31/1996	ARMSTRONG	Footnote 89 -- Special Interest	341/20	Yes
	5591924	1/7/1997	HILTON	Cited for Related Interest	73/862	
	5602569	2/11/1997	KATO	Cited for Related Interest	345/158	
	5606594	2/25/1997	REGISTER ETAL	Cited for Related Interest	455/556.2	Yes
	5607158	3/4/1997	Chan	Cited for Related Interest	273/148B	
	5615083	3/25/1997	Burnett	Cited for Related Interest	361/686	
	5640566	6/17/1997	VICTOR ETAL	Cited for Related Interest	717/113	Yes
	5644113	7/1/1997	DATE ETAL	Cited for Related Interest	200/5R	
	D381982	8/5/1997	ZEITMAN	Cited for Related Interest	D14/162	
	5657051	8/12/1997	LIAO	Cited for Related Interest	345/163	
	5659334	8/19/1997	YANIGER ETAL	Cited for Related Interest	345/156	
	4045650	8/30/1997	NESTOR	Cited for Related Interest	200/556	
	5670955	9/23/1997	THORN ETAL	Footnote 24 -- Special Interest	341/34	Yes
	5670988	9/23/1997	TICKLE	Cited for Related Interest	345/157	Yes
	5669818	9/23/1997	THORNER ETAL	Cited for Related Interest	463/30	Yes
	5673237	9/30/1997	BLANK	Cited for Related Interest	368/10	Yes
	5675329	10/7/1997	BARKER ETAL	Cited for Related Interest	341/22	Yes
	5675309	10/7/1997	DEVOLPI	Cited for Related Interest	338/68	
	5675359	10/7/1997	ANDERSON	Cited for Related Interest	345/161	
	5684759	11/4/1997	HUANG ETAL	Cited for Related Interest	368/10	
	5687080	11/11/1997	HOYT ETAL	Footnote14 -- Special Interest	700/85	
	5689285	11/18/1997	ASHER	Footnote 30 -- Special Interest	345/161	Yes
	5706027	1/6/1998	HILTON ETAL	Cited for Related Interest	345/156	
	5704612	1/6/1998	KELLY ETAL	Cited for Related Interest	273/402	
	5716274	2/10/1998	GOTO ETAL	Cited for Related Interest	463/37	
	5738352	4/14/1998	OHKUBO ETAL	Cited for Related Interest	273/148B	
	5749577	5/12/1998	COUCH ETAL	Cited for Related Interest	273/148B	
	5764219	6/9/1998	RUTLEDGE ET AL	Footnote 21 -- Special Interest	345/159	Yes
	5767840	6/16/1998	SELKER	Cited for Related Interest	345/161	
	5767839	6/16/1998	ROSENBERG	Cited for Related Interest	345/161	
	5767840	6/16/1998	SELKER	Cited for Related Interest	345/161	
	5774109	6/30/1998	WINKSY ETAL	Cited for Related Interest	345/685	
	5778404	7/7/1998	CAPPS ETAL	Cited for Related Interest	715/531	Yes
	5781807	7/14/1998	GLASSGOLD ETAL	Footnote 79 -- Special Interest	396/71	
	5790102	8/4/1998	NASSIMA	Footnote 96 -- Special Interest	345/163	Yes
	5805138	9/8/1998	BRAWNE ETAL	Cited for Related Interest	345/156	
	5812114	9/22/1998	LOOP	Footnote 35 -- Special Interest	345/157	
	5815139	9/29/1998	YOSHIKAWA	Cited for Related Interest	345/157	
	5828363	10/27/1998	YANIGER ETAL	Cited for Related Interest	345/156	
	5831596	11/3/1998	MARSHALL ETAL	Cited for Related Interest	345/161	
	5835977	11/10/1998	KAMENTSER ETAK	Cited for Related Interest	73/862.05	
	4786764	11/22/1998	Padula et al	Footnote ?? -- Special Interest	178/18	

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	5847305	12/8/1998	YOSHIKAWA ETAL	Footnote 45 -- Special Interest	84/634	Yes
	5847639	12/8/1998	YANIGER	Cited for Related Interest	338/99	Yes
	5847694	12/8/1998	REDFORD ETAL	Footnote 31 -- Special Interest	345/158	
	5847698	12/8/1998	REAVY ETAL	Cited for Related Interest	345/173	
	5854624	12/29/1998	GRANT	Cited for Related Interest	345/169	Yes
	5853326	12/29/1998	GOTO ETAL	Cited for Related Interest	463/37	
	5854622	12/29/1998	BRANNON	Cited for Related Interest	345/161	
	5867808	2/2/1999	SELKER ETAL	Cited for Related Interest	702/41	Yes
	5872521	2/16/1999	LOPATUKIN ETAL	Cited for Related Interest	340/7.52	
	5883619	3/16/1999	HO ETAL	Cited for Related Interest	345/163	Yes
	5889236	3/30/1999	GILLESPIE ET AL	Cited for Related Interest	178/18.01	Yes
	5889507	3/30/1999	ENGLE ETAL	Footnote 17 -- Special Interest	345/161	Yes
	5889236	3/30/1999	GILLESPIE ETAL	Cited for Related Interest	187/18.01	
	5895471	4/20/1999	KING ETAL	Cited for Related Interest	707/104.1	Yes
	5898359	4/27/1999	ELLIS	Cited for Related Interest	338/47	Yes
	5898425	4/27/1999	SEKINE	Footnote 19 -- Special Interest	345/168	
	5909207	6/1/1999	HO	Cited for Related Interest	345/156	
	5910798	6/8/1999	KIM	Footnote 27 -- Special Interest	345/163	Yes
	5910882	6/8/1999	BURRELL	Footnote 76 -- Special Interest	361/681	
	5917779	6/29/1999	RALSON ETAL	Cited for Related Interest	368/83	
	5923317	7/13/1999	SAYLER ETAL	Footnote 36 -- Special Interest	345/156	Yes
	5923267	7/13/1999	BEUK ETAL	Cited for Related Interest	340/825	
	5943044	8/24/1999	MARTINELLI ETAL	Footnote 25 -- Special Interest	345/174	Yes
	5948066	9/7/1999	WHALEN ETAL	Footnote 44 -- Special Interest	709/229	Yes
	5952631	9/14/1999	MIYAKI	Cited for Related Interest	200/6A	
	5963196	10/5/1999	NISHIUMI ETAL	Cited for Related Interest	345/161	Yes
	5966117	10/12/1999	SEFFERNICK ETAL	Cited for Related Interest	345/161	
	5974238	10/26/1999	CHASE	Cited for Related Interest	709/248	Yes
	5973668	10/26/1999	WATANABE	Cited for Related Interest	345/157	
	5983004	11/9/1999	SHAW ETAL	Footnote 78 -- Special Interest	709/227	
	5984785	11/16/1999	TAKEDA ETAL	Cited for Related Interest	463/38	Yes
	5991594	11/23/1999	FROEBER ETAL	Cited for Related Interest	434/317	
	5995026	11/30/1999	SELLERS	Footnote 26 -- Special Interest	341/34	Yes
	5995319	11/30/1999	TANIGAWA ETAL	Cited for Related Interest	360/90	
	5999084	12/7/1999	ARMSTRONG	Cited for Related Interest	338/114	Yes
	5999808	12/7/1999	LADUE	Footnote 49 -- Special Interest	455/412.2	Yes
	6001014	12/14/1999	OGATA ETAL	Footnote 66 -- Special Interest	463/37	Yes
	6004210	12/21/1999	SHINOHARA	Cited for Related Interest	463/36	
	6020884	2/1/2000	MACNAUGHTON ETAL	Cited for Related Interest	345/747	Yes
	6027828	2/22/2000	HAHN	Footnote 56 -- Special Interest	429/100	
	6037954	3/14/2000	MCMAHON	Cited for Related Interest	345/169	
	6040821	3/21/2000	FRANZ ETAL	Cited for Related Interest	345/159	Yes
	6049812	4/11/2000	BERTRAM ETAL	Footnote 29 -- Special Interest	715/516	Yes
	6049323	4/11/2000	ROCKWELL ETAL	Cited for Related Interest	345/784	
	6059660	5/9/2000	TAKADA ETAL	Cited for Related Interest	463/38	
	6060701	5/9/2000	MCKEE ETAL	Cited for Related Interest	219/681	
	6064766	5/16/2000	SKLAREW	Cited for Related Interest	382/189	
	6067005	5/23/2000	DEVOLPI	Cited for Related Interest	338/47	
	6067863	5/30/2000	FAVRE ETAL	Cited for Related Interest	73/862.68	
	6072469	6/6/2000	CHEN ETAL	Cited for Related Interest	345/157	
	6073034	6/6/2000	JACOBSEN ETAL	Cited for Related Interest	455/566	
	6102802	8/15/2000	ARMSTRONG	Cited for Related Interest	463/37	Yes

Examiner Signature		Date Considered	

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	6112014	8/29/2000	KANE	Footnote 40 -- Special Interest	358/1.16	
	6118979	9/12/2000	POWELL	Footnote 46 -- Special Interest	340/7.6	Yes
	6124845	9/26/2000	TODA ETAL	Cited for Related Interest	345/157	
	6135886	10/24/2000	ARMSTRONG	Cited for Related Interest	463/37	Yes
	6153843	11/28/2000	DATE ETAL	Cited for Related Interest	200/339	
	6157935	12/5/2000	TRAN ETAL	Cited for Related Interest	715/503	Yes
	6157381	12/5/2000	BATES ETAL	Cited for Related Interest	345/786	
	6178338	1/23/2001	YAMAGISHI ETAL	Cited for Related Interest	455/566	
	6177926	1/23/2001	KUNERT	Footnote 71 -- Special Interest	345/173	
	6185158	2/6/2001	ITO ETAL	Cited for Related Interest	368/37	
	6198473	3/6/2001	ARMSTRONG	Cited for Related Interest	345/163	Yes
	6198948	3/6/2001	SUDO ETAL	Footnote 43 -- Special Interest	455/566	Yes
	6198472	3/6/2001	LECTION ETAL	Cited for Related Interest	345/161	
	6208271	3/27/2001	ARMSTRONG	Cited for Related Interest	341/34	Yes
	6222525	4/24/2001	ARMSTRONG	Cited for Related Interest	345/161	Yes
	6231444	5/15/2001	GOTO ETAL	Footnote 47 -- Special Interest	463/37	Yes
	6239786	5/29/2001	BURRY ETAL	Cited for Related Interest	345/161	
	6256011	7/3/2001	CULVER	Footnote 63 -- Special Interest	345/157	Yes
	6262406	7/17/2001	MCKEE ETAL	Footnote 72 -- Special Interest	219/681	
	6262406	7/17/2001	MCKEE ETAL	Cited for Related Interest	219/681	
	6275138	8/14/2001	MAEDA	Cited for Related Interest	338/47	
	6285356	9/4/2001	ARMSTRONG	Cited for Related Interest	345/167	
	6310606	10/30/2001	ARMSTRONG	Cited for Related Interest	345/161	
	6321158	11/20/2001	DELORME ETAL	Footnote 69 -- Special Interest	701/201	
	6326948	12/4/2001	KOBACHI ETAL	Footnote 65 -- Special Interest	345/157	Yes
	6343991	2/5/2002	ARMSTRONG	Cited for Related Interest	463/37	
	6344791	2/5/2002	ARMSTRONG	Cited for Related Interest	338/114	
	6347997	2/19/2002	ARMSTRONG	Cited for Related Interest	463/37	
	6351205	2/26/2002	ARMSTRONG	Cited for Related Interest	338/114	
	6352477	3/5/2002	SOMA ETAL	Cited for Related Interest	463/36	Yes
	6400303	6/4/2002	ARMSTRONG	Cited for Related Interest	341/176	
	6415707	6/9/2002	ARMSTRONG	Cited for Related Interest	99/280	
	6404584	6/11/2002	ARMSTRONG	Cited for Related Interest	360/88	
	6422941	7/23/2002	THORNER ETAL	Cited for Related Interest	463/30	Yes
	6424336	7/23/2002	ARMSTRONG	Cited for Related Interest	345/159	
	6456778	9/24/2002	ARMSTRONG	Cited for Related Interest	386/46	
	6469691	10/22/2002	ARMSTRONG	Cited for Related Interest	345/159	
	6470078	10/22/2002	ARMSTRONG	Cited for Related Interest	379/93.19	
	6496449	12/17/2002	ARMSTRONG	Cited for Related Interest	345/159	
	6504527	1/7/2003	ARMSTRONG	Cited for Related Interest	345/159	
	6518953	2/11/2003	ARMSTRONG	Cited for Related Interest	345/159	
	6524187	2/25/2003	KOMATA	Cited for Related Interest	463/37	Yes
	6529185	3/4/2003	ARMSTRONG	Cited for Related Interest	345/159	
	6532000	3/11/2003	ARMSTRONG	Cited for Related Interest	345/159	
	6538638	3/25/2003	ARMSTRONG	Cited for Related Interest	345/159	
	6559831	5/6/2003	ARMSTRONG	Cited for Related Interest	345/159	
	6563415	5/13/2003	ARMSTRONG	Cited for Related Interest	338/47	
	6424333	7/23/2002	TREMBLAY ET AL	Cited for Related Interest	345/156	
	6275213	8/14/2001	TREMBLAY ET AL	Cited for Related Interest	345/156	

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	Application Number: 09/893,292								
	Filing Date: June 26, 2001								
	First Named Unit: Brad A. Armstrong								
	Group Art Unit: 2673								
	Examiner's Name: D. Chow								
	Applicant File Number: F28								
Examiner Initials	**Publication Number**	**Pub. Date**	**Inventor or Assignee**	**Additional Data in Footnote**	**Previously Submitted in this Application**				
	US 2002/0036660	3/28/2002	Adan et al	Footnote 95--Special Interest					

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	Application Number: 09/893,292						
	Filing Date: June 26, 2001						
	First Named Unit: Brad A. Armstrong						
	Group Art Unit: 2673						
	Examiner's Name: D. Chow						
	Applicant File Number: F28						
EXAMINER INITIALS	**NON PATENT LITERATURE DOCUMENTS AND OTHERS REFERENCES**	**Additional Data in Footnote**	**Previously Submitted**				
	Mouse Ball-Actuating Device with Force and Tactile Feedback", IBM Disclosure Bulletin, vl 32, No. 9B, Feb. 1990, pp. 230-235	Footnote 2 -- Special Interest	Yes				
	Research Disclosures, vol. 283, Nov. 1987 (USA) "Joystick with Tactile Feedback"		Yes				
	Development of a General Purpose Hand Controller for Advanced Teleoperation" KV Siva, Harwell Laboratory, UK. July 1988	Footnote 12 -- Special Interest					
	The "CyberMan" 3D Controller by Logitech Inc. of Fremont California, USA. Provided herewith is a two page advertisement flyer; detailed photographs and a description of the photographs in the Information Disclosure Statement included herewith.	Footnote 9 -- Special Interest					
	Kambic "Keyboard Switch with Stroke and Feedback Enhancement Using Vertically Conducting Elastomer In a Laterally Conducting Mode", IBM Technical Disclosure Bulletin, Volume 20, No. 5, October 1977, pp. 1833-1834	Footnote 22 -- Special Interest	Yes				

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EXAMINER INITIALS	NON PATENT LITERATURE DOCUMENTS AND OTHERS REFERENCES	Additional Data in Footnote	Previously Submitted				
	A manual titled: Universal Serial Bus (USB), Device Class Definition For Human Devices, Firmware Specification-Oct. 14, 1998, Version 1.1 draft which was printed on the Internet site of www.usb.org in Nov. 1998						
	Search results titled Questel-Orbit QWEB dated December 1999, pages 1-24 having short descriptions / abstracts thereon are submitted herewith by Applicant for study.		Yes				
	A hand held controller for video games by Namco Co. has a button to drive a gear and rotate a rotary potentiometer which creates an analog signal change based on positional change; to be considered prior art to some of Applicant's claims. Photographs and a written description is provided in the Information Disclosure Statement.						
	Flightstck Pro" by CH Products, San Marcos, Califonia USA, a joystick which uses a gimbal and rotary potentiometers, the joystick is prior art sold in stores.						
	Known prior art are rotary operated potentiometers which have an Off position usually in the far counterclockwise direction of rotation and an audible "click" is provided when rotated in and out of the Off position. Such potentiometers are variable output electrical devices controlled by rotation.						

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Footnotes – References of Special Interest

Re: Patent Application of Brad A. Armstrong

Applicant's reference F28

Filed: 06/26/01 Serial No.: 09/893,292

Title: IMAGE CONTROLLER

Applicant's mailing address: Brad A. Armstrong
PO Box 1419
Paradise, CA 95967

Examiner: D. Chow

Group Art Unit: 2673

Footnotes submitted as a part of the Information Disclosure Statement

Footnote Numbers

1 Inventor King, US Patent Number 4555960 published on 12/3/1985 was relied upon against applicant's US patent application serial number 07/847619 in the Office Action dated 5/17/1994. In that Office Action on pages 9-14 Examiner A. Hill asserted a 35 USC 102 rejection in sections 5-6 and a 35 USC 103 rejection in sections 7-10.

1 Inventor King, US Patent Number 4555960 published on 12/3/1985 was relied upon against applicant's patent application serial number 07/847619 in the Office Action dated 9/28/1994. In that Office Action on pages 6-11Examiner A. Hill asserted a 35 USC 103 rejection in sections 7-8.

1 Inventor King, US Patent Number 4555960 published on 12/3/1985 was relied upon against applicant's patent application serial number 07/847619 in the Office Action dated 5/11/1995. In that Office Action on pages 11-17 Examiner A. Hill asserted a 35 USC 103 rejection in sections 10-11.

1 Inventor King, US Patent Number 4555960 published on 12/3/1985 was relied upon against applicant's patent application serial number 07/847619 in the Office Action dated 8/10/1995. In that Office Action on pages 17-32 Examiner A. Hill asserted a 35 USC 102 rejection in section 9 and a 35 USC 103 rejection in sections 11-17.

2 The IBM Technical Disclosure Bulletin Vol. 32 No. 9B "Mouse Ball-Actuating Device With Force and Tactile Feedback" pages 230-235 published 2/1/1990 was relied upon against applicant's patent application No. 07/847619 in the Office Action dated 5/17/1994. In that Office Action Examiner A. Hill asserted a 35 USC 103 rejection in sections 7-10 on pages 10-13.

2 The IBM Technical Disclosure Bulletin Vol. 32 No. 9B "Mouse Ball-Actuating Device With Force and Tactile Feedback" pages 230-235 published 2/1/1990 was relied upon against applicant's patent application No. 07/847619 in the Office Action dated 9/28/1994. In that Office Action Examiner A. Hill asserted a 35 USC 103 rejection in sections 7-8 on pages 6-11.

2 The IBM Technical Disclosure Bulletin Vol. 32 No. 9B "Mouse Ball-Actuating Device With Force and Tactile Feedback" pages 230-235 published 2/1/1990 was relied upon against applicant's patent application No. 07/847619 in the Office Action dated 5/11/1995. In that Office Action Examiner A. Hill asserted a 35 USC 103 rejection in sections 10-11 on pages 11-17.

2 The IBM Technical Disclosure Bulletin Vol. 32 No. 9B "Mouse Ball-Actuating Device With Force and Tactile Feedback" pages 230-235 published 2/1/1990 was relied against applicant's patent application No. 07/847619 in the Office Action dated 8/10/1995. In that Office Action Examiner A. Hill asserted a 35 USC 103 rejection in sections 11-15 on pages 20-29.

3 Inventors Frank et at in US Patent 5252952 issued 10/1/1993 was relied upon against applicant's patent application no. 07/847619 in an Office Action dated 5/17/1994. In that Office Action Examiner A. Hill asserted a 35 USC 103 rejection in sections 9-10 on pages 12-13.

3 Inventors Frank et at in US Patent 5252952 issued 10/1/1993 was relied upon against applicant's patent application no. 07/847619 in an Office Action dated 9/28/1994. In that Office Action Examiner A. Hill asserted a 35 USC 103 rejection in sections 7-8 on pages 6-11.

3 Inventors Frank et at in US Patent 5252952 issued 10/1/1993 was relied upon against applicant's patent application no. 07/847619 in an Office Action dated 5/11/1995. In that Office Action Examiner A. Hill asserted a 35 USC 103 rejection in sections 10-11 on pages 11-17.

3 Inventors Frank et at in US Patent 5252952 issued 10/1/1993 was relied upon against applicant's patent application no. 07/847619 in an Office Action dated 8/10/1995. In that Office Action Examiner A. Hill asserted a 35 USC 103 rejection in sections 14-17 on pages 24-32.

4 Patent document No. EP0205726 of Nakamura published 12/30/1986 was relied upon against applicant's patent application no. 07/847619 in an Office Action dated 5/17/1994. In that Office Action Examiner A. Hill asserted a 35 USC 103 rejection in section 10 on pages 13-14.

5 Inventor Kley, US Patent4935728 issued 6/1/1990 was releid upon against applicant's patent application No. 07/847619 in an Office Action dated 9/28/1994. In that Office Action Examiner A. Hill asserted a 35 USC 103 rejection in section 7-8 on pages 6-11.

5 Inventor Kley, US Patent4935728 issued 6/1/1990 was relied upon against applicant's patent application No. 07/847619 in an Office Action dated 8/10/1995. In that Office Action Examiner A. Hill asserted a 35 USC 103 rejection in section 14-17 on pages 24-32.

6 Inventors Dzholdasbekov et al, patent document GB2240614 published Aug. 7,1991 was relied upon against applicant's application no. 07/847619 in an Office Action dated 5/11/1995. In that Office Action Examiner A. Hill asserted a 35 USC 103 rejection in section 10-11 on pages 11-17.

6 Inventors Dzholdasbekov et al, patent document GB2240614 published Aug. 7,1991 was relied upon against applicant's application no. 07/847619 in an Office Action dated 08/10/1995. In that Office Action Examiner A. Hill asserted a 35 USC 102 rejection in sections 7-8 and a 35 USC 103 rejection in section 1, 13 on pages 20-32.

7 Inventor Menahem, US Patent 5142931 issued 9/1/1992 was relied upon against applicant's patent application 07/847619 in an Office Action dated 8/10/1995. In that Office Action Examiner A. Hill asserted a 35 USC 103 rejection in section 14-17 on pages 24-32.

8 Inventor Thomas, Jr., US Patent 5128671 issued 7/7/1992 was relied upon against applicant's application no. 07/847619 in an Office Action dated 8/10/1995. In that Office Action Examiner A. Hill asserted a 35 USC 103 rejection in section 16-17 on pages 29-32.

9 The product "Cyberman" is a controller sold to the public in 1993 by Logitech and which was relied upon against applicant's US Patent application no. 08/393459 in an Office Action dated 7/5/1995. In that Office Action Examiner D. Chow asserted a 35 USC 103 rejection in section 3 pages 2-4. Also, the resultant Patent from application no. 08/393459 listed the product as "Gyberman" instead of the correct name of Cyberman.

10 Inventor Wislocki, US Patent 4933670 issued 6/12/1990 was relied upon against applicant's patent application no. 08/393459 in an Office Action dated 7/5/1995 In that Office Action Examiner D. Chow asserted a 35 USC 103 rejection in section 3 pages 2-4.

10 Inventor Wislocki, US Patent 4933670 issued 6/12/1990 was relied upon against applicant's patent application no. 08/393459 in an Office Action dated 12/11/1995. In that Office Action Examiner D. Chow asserted a 35 USC 103 rejection in sections 4-6 pages 2-5.

11 Inventor Leung, US Patent 4924216 issued 5/8/1990was relied upon against application application no. 08/393459 in an Office Action dated 12/11/1995. In that Office Action Examiner D. Chow asserted a 35 USC 103 rejection in section 5 page 4.

12 The article "Developement of a General Purpose Hand Controller for Advanced Teleoperation", KV Siva, Harwell Laboratory, UK, July1988 was relied upon against applicant's patent application no. 08/393459 in an Office Action dated 12/11/1995. In that Office Action Examiner D. Chow asserted a 35 USC 103 rejection in sections 4-6 pages 2-5.

13 Inventor Garrett, US Patent 5065146 issued 11/12/1991 was relied upon against applicant's patent application 08/393459 in an Office Action dated 12/11/1995. In that Office Action Examiner D. Chow asserted a 35 USC 103 rejection in section 6 pages 4-5.

14 Inventors Hoyt et al, US Patent 5687080 issued 11/11/997 was relied upon against applicant's US Patent application No. 08/677378 in an Office Action dated 3/23/1998. In that Office Action Examiner J. Suraci asserted a 35 USC 102 rejection in section 2 and a 35 USC 103 rejection in section 4 pages 1-2.

14 Inventors Hoyt et al, US Patent 5687080 issued 11/11/997 was relied upon against applicant's US Patent application No. 08/677378 in an Office Action dated 6/26/1998. In that Office Action Examiner J. Suraci asserted a 35 USC 102 rejection in section 4 and a 35 USC 103 rejection in section 6 pages 3-4.

14 Inventors Hoyt et al, US Patent 5687080 issued 11/11/997 was relied upon against applicant's US Patent application No. 08/677378 in an Office Action dated 9/30/1999. In that Office Action Examiner J. Brier asserted a 35 USC 102 rejection in section 9 and a 35 USC 103 rejection in section 14 pages 5-6.

14 Inventors Hoyt et al, US Patent 5687080 issued 11/11/997 was relied upon against applicant's US Patent application No. 08/677378 in an Office Action dated 3/13/2000. In that Office Action Examiner J. Brier asserted a 35 USC 103 rejection in section 5 page 3.

14 Inventors Hoyt et al, US Patent 5687080 issued 11/11/997 was relied upon against applicant's US Patent application No. 08/677378 in an Office Action dated 8/31/2000. In that Office Action Examiner J. Brier asserted a 35 USC 103 rejection in sections 12-13 pages 5-6.

15 Inventors Yoshida et al, US Patent 5250930 issued 10/5/1993 was relied upon against applicant's US patent application 08/677378 in an Office Action dated 3/23/1998. In that Office Action Examiner J. Suraci asserted a 35 USC 103 rejection in section 4 page 2.

15 Inventors Yoshida et al, US Patent 5250930 issued 10/5/1993 was relied upon against applicant's US patent application 08/677378 in an Office Action dated 6/26/1998. In that Office Action Examiner J. Suraci asserted a 35 USC 103 rejection in section 6 page 4.

15 Inventors Yoshida et al, US Patent 5250930 issued 10/5/1993 was relied upon against applicant's US patent application 08/677378 in an Office Action dated 9/30/1999. In that Office Action Examiner J. Brier asserted a 35 USC 103 rejection in section 14 page 6.

15 Inventors Yoshida et al, US Patent 5250930 issued 10/5/1993 was relied upon against applicant's US patent application 08/677378 in an Office Action dated 3/13/2000. In that Office Action Examiner J. Brier asserted a 35 USC 103 rejection in section 5 page 3.

16 Inventor Duimel, US Patent 4879556 issued 11/7/1989 was relied upon against applicant's US patent application 08/677378 in an Office Action dated 9/30/1999. In that Office Action Examiner J. Brier asserted a 35 USC 102 rejection in section 10 page 5.

17 Inventors Engle et al, US Patent 5889507 issued 3/30/1999 was relied upon against applicant's US patent application 08/677378 in an Office Action dated 9/30/1999. In that Office Action Examiner J. Brier asserted a 35 USC 102 rejection in section 11 page 6.

17 Inventors Engle et al, US Patent 5889507 issued 3/30/1999 was relied upon against applicant's US patent application 10/042,027 in an Office Action dated 12/4/2002. In that Office Action Examiner J. Paradiso asserted a 35 USC 103 rejection in section 2-3 pages 2-4.

18 Inventors Brandenburg et al, US Patent 5231386 issued 7/24/1990 was relied upon against applicant's US patent application 08/677378 in an Office Action dated 9/30/1999. In that Office Action Examiner J. Brier asserted a 35 USC 102 rejection in section 12 page 6.

18 Inventors Brandenburg et al, US Patent 5231386 issued 7/24/1990 was relied upon against applicant's US patent application 08/677378 in an Office Action dated 8/31/2000. In that Office Action Examiner J. Brier asserted a 35 USC 102 rejection in section 7 and a 35 USC rejection in sections 10, 12 pages 4-6.

19 Inventor Sekine, US Patent 5898425 issued 4/27/1999 was relied upon against applicant's US patent application 08/677378 in an Office Action dated 8/31/2000. In that Office Action Examiner J. Brier asserted a 35 USC 102 rejection in section 8 and a 35 USC rejection in sections 11, 13 pages 4-6.

19 Inventor Sekine, US Patent 5898425 issued 4/27/1999 was relied upon as a PCT "X" reference (lack of novelty indicated by "X") against applicant's PCT application NO. PCT/US99/28913 in a report dated April 19, 2002 by Examiner J. Brier.

20 Inventors Inoue et at, US Patent 5207426 issued 5/4/1993 was relied upon against Applicant's US Patent application No.08/942450 in an Office Action dated 8/18/1999. In that Office Action Examiner J. Paradiso asserted a 35 USC 103 rejection in section 2 pages 2-3.

20 Inventors Inoue et at, US Patent 5207426 issued 5/4/1993 was relied upon against Applicant's US Patent application No. 10/164684 in an Office Action dated 2/6/2003. In that Office Action Examiner J. Paradiso asserted a 35 USC 103 rejection in section 2 pages 2-3.

20 Inventors Inoue et at, US Patent 5207426 issued 5/4/1993 was relied upon against Applicant's US Patent application No. 09/510572 in an Office Action dated 2/13/2001. In that Office Action Examiner J. Paradiso asserted a 35 USC 103 rejection in section 5 pages 3-4.

20 Inventors Inoue et at, US Patent 5207426 issued 5/4/1993 was relied upon against Applicant's US Patent application No. 10/042027 in an Office Action dated 3/14/2002. In that Office Action Examiner J. Paradiso asserted a 35 USC 103 rejection in sections 2-4 pages 2-4.

20 Inventors Inoue et at, US Patent 5207426 issued 5/4/1993 was relied upon against Applicant's US Patent application No. 10/042027 in an Office Action dated 12/4/2002. In that Office Action Examiner J. Paradiso asserted a 35 USC 103 rejection in sections 2-3 pages 2-4.

20 Inventors Inoue et at, US Patent 5207426 issued 5/4/1993 was relied upon against Applicant's US Patent application No. 09/892430 in an Office Action dated 11/7/2001. In that Office Action Examiner J. Paradiso asserted a 35 USC 103 rejection in section 4 page 3.

20 Inventors Inoue et al , US Patent 5207426 issued 5/4/1993 was relied upon as a PCT "Y" reference (used in obviousness) against Applicant's PCT application No. PCT/US99/28654 in an Office Action dated Sept. 13, 2001 by Examiner J. Paradiso.

20 Inventors Inoue et at, US Patent 5207426 issued 5/4/1993 was relied upon as a PCT "y" reference (used in obviousness) against Applicant's PCT application No. PCT/US99/28654 in an Office Action dated March 15, 2000 by Examiner L. Libberecth.

21 Inventors Rutledge et al, US Patent 5764219 issued 6/9/1998 was relied upon against applicant's US patent application 08/942450 in an Office Action dated 8/18/1999. In that Office Action Examiner J. Paradiso asserted a 35 USC 103 rejection in section 2 pages 2- 3.

21 Inventors Rutledge et al, US Patent 5764219 issued 6/9/1998 was relied upon against applicant's US patent application 10/164684 in an Office Action dated 2/6/2003. In that Office Action Examiner J. Paradiso asserted a 35 USC 103 rejection in section 2 pages 2- 3.

21 Inventors Rutledge et al, US Patent 5764219 issued 6/9/1998 was relied upon against applicant's US patent application 09/892430 in an Office Action dated 11/7/2001. In that Office Action Examiner J. Paradiso asserted a 35 USC 103 rejection in section 4 page 3.

21 Inventors Rutledge et al, US Patent 5764219 issued 6/9/1998 was relied upon as a PCT "Y" reference (used in obviousness) against applicant's PCT application PCT/US99/28654 in an Office Action dated Sept. 13, 2001 by Examiner J. Paradiso.

22 The article "Keyboard Switch with Stroke and Feedback Enhancement Using Vertically Conducting Elastomer in a Laterally Conducting Mode" by Kambic , IBM Technical Disclosure Vol. 20, No. 5, pages 1833-1834, (October 1977) was relied upon against applicant's US patent application 09/106825 in an Office Action dated 4/26/1999. In that Office Action Examiner K. Easthom asserted a 35 USC 102 rejection in section 3 and a 35 USC 103 rejection in section 5 pages 2-3.

22 The article "Keyboard Switch with Stroke and Feedback Enhancement Using Vertically Conducting Elastomer in a Laterally Conducting Mode" by Kambic , IBM Technical Disclosure Vol. 20, No. 5, pages 1833-1834, (October 1977) was relied upon against applicant's US patent application 09/106825 in an Office Action dated 6/24/1999. In that Office Action Examiner K. Easthom asserted a 35 USC 102 rejection in section 2 and a 35 USC 103 rejection in section 4 page 2.

22 The article "Keyboard Switch with Stroke and Feedback Enhancement Using Vertically Conducting Elastomer in a Laterally Conducting Mode" by Kambic , IBM Technical Disclosure Vol. 20, No. 5, pages 1833-1834, (October 1977) was relied upon against applicant's US patent application 09/455821 in an Office Action dated 4/19/2000. In that Office Action Examiner K. Easthom asserted a 35 USC 102 rejection in section 5 and a 35 USC 103 rejection in section 7 pages 3-4.

22 The article "Keyboard Switch with Stroke and Feedback Enhancement Using Vertically Conducting Elastomer in a Laterally Conducting Mode" by Kambic , IBM Technical Disclosure Vol. 20, No. 5, pages 1833-1834, (October 1977) was relied upon against applicant's US patent application 09/710557 in an Office Action dated 5/20/2002. In that Office Action Examiner D. Chow asserted a 35 USC 103 rejection in section 3 page 3.

23 Inventor Fujita, US Patent 3611068 issued 10/5/1971 was relied upon against applicant's US patent application 09/106825 in an Office Action dated 4/26/1999. In that Office Action Examiner K. Easthom asserted a 35 USC 103 rejection in section 5 pages 2-3.

23 Inventor Fujita, US Patent 3611068 issued 10/5/1971 was relied upon against applicant's US patent application 09/106825 in an Office Action dated 6/24/1999. In that Office Action Examiner K. Easthom asserted a 35 USC 103 rejection in section 4 page 2.

24 Inventors Thorne et al, US Patent 5670955 issued 9/23/1997 was relied upon against applicant's US patent application 09/148806 in an Office Action dated 5/24/2000. In that Office Action Examiner T. Edwards Jr. asserted a 35 USC 103 rejection in sections 2-4 pages 2-12.

25 Inventors Martinelli et al, US Patent 5943044 issued 8/24/1999 was relied upon against applicant's US patent application 09/148806 in an Office Action dated 5/24/2000. In that Office Action Examiner T. Edwards Jr. asserted a 35 USC 103 rejection in sections 3-4 pages 8-12.

26 Inventor Sellers, US Patent 5995026 issued 11/30/1999 was relied upon against applicant's US patent application 09/148806 in an Office Action dated 5/24/2000. In that Office Action Examiner T. Edwards Jr. asserted a 35 USC 103 rejection in sections 4 pages 11-12.

27 Inventor Kim, US Patent 5910798 issued 6/8/1999 was relied upon against applicant's US patent application 09/167314 in an Office Action dated 6/20/2000. In that Office Action Examiner K. Nguyen asserted a 35 USC 103 rejection in sections 2-6 pages 2-3.

27 Inventor Kim, US Patent 5910798 issued 6/8/1999 was relied upon against applicant's US patent application 09/167314 in an Office Action dated 8/30/2000. In that Office Action Examiner K. Nguyen asserted a 35 USC 103 rejection in sections 4-9 pages 2-4.

28 Inventor Thornburg, US Patent 4313113 issued 1/19/1982 was relied upon against applicant's US patent application 09/167314 in an Office Action dated 6/20/2000. In that Office Action Examiner K. Nguyen asserted a 35 USC 103 rejection in sections 2-6 pages 2-3.

28 Inventor Thornburg, US Patent 4313113 issued 1/19/1982 was relied upon against applicant's US patent application 09/167314 in an Office Action dated 8/30/2000. In that Office Action Examiner K. Nguyen asserted a 35 USC 103 rejection in sections 4-9 pages 2-4.

28 Inventor Thornburg, US Patent 4313113 issued 1/19/1982 was relied upon against applicant's US patent application 09/563109 in an Office Action dated 10/3/2002. In that Office Action Examiner H. Dang asserted a 35 USC 103 rejection in sections 6-7 pages 2-8.

28 Inventor Thornburg, US Patent 4313113 issued 1/19/1982 was relied upon as a PCT "X" reference (lack of novelty indicated by "X") and also as a PCT "Y" reference (used in obviousness) against applicant's PCT application NO. PCT/US00/12840 in a report dated October 13, 2000 by Examiner K. Wieder..

29 Inventors Bertram et al, US Patent 6049812 issued 4/11/2000 was relied upon against applicant's US patent application 09/167314 in an Office Action dated 6/20/2000. In that Office Action Examiner K. Nguyen asserted a 35 USC 103 rejection in sections 6-7 page 3.

29 Inventors Bertram et al, US Patent 6049812 issued 4/11/2000 was relied upon against applicant's US patent application 09/167314 in an Office Action dated 8/30/2000. In that Office Action Examiner K. Nguyen asserted a 35 USC 103 rejection in sections 8-9 page 4.

30 Inventor Asher, US Patent 5689285 issued 11/18/1997 was relied upon against applicant's US Patent application 09/253263 in an Office Action dated 10/4/2000. In that Office Action Examiner T. Mengisteab asserted a 35 USC 103 rejection in sections 4-7 pages 2-6.

30 Inventor Asher, US Patent 5689285 issued 11/18/1997 was relied upon against applicant's US Patent application 09/510572 in an Office Action dated 2/13/2001. In that Office Action Examiner J. Paradiso asserted a 35 USC 103 rejection in section 5 pages 3-4.

30 Inventor Asher, US Patent 5689285 issued 11/18/1997 was relied upon against applicant's US Patent application 09/941310 in an Office Action dated 4/8/2003. In that Office Action Examiner A. Jankus asserted a 35 USC 102 rejection in section 4 pages 2-3.

30 Inventor Asher, US Patent 5689285 issued 11/18/1997 was relied upon as a PCT "Y" reference (used in obviousness) against applicant's PCT application NO. PCT/US00/33253 in a report dated April 11, 2001 by Examiner J. Paradiso.

30 Inventor Asher, US Patent 5689285 issued 11/18/1997 was relied upon as a PCT "Y" reference (used in obviousness) against applicant's PCT application NO. PCT/US00/33397 in a report dated April 19, 2001 by Examiner J. Paradiso

31 Inventor Redford, US Patent 5847694 issued 12/8/1998 was relied upon against applicant's US Patent application 09/253263 in an Office Action dated 10/4/2000. In that Office Action Examiner T. Mengisteab asserted a 35 USC 103 rejection in section 5 page 4.

32 Inventors Gregory et al, US Patent 5264768 issued 11/23/1993 was relied upon against applicant's US Patent application 09/253263 in an Office Action dated 10/4/2000. In that Office Action Examiner T. Mengisteab asserted a 35 USC 103 rejection in section 6 pages 4-5.

33 Inventors Brandenburg et al, US Patent 5499041 issued 3/12/1996 was relied upon against applicant's US Patent application 09/253263 in an Office Action dated 10/4/2000. In that Office Action Examiner T. Mengisteab asserted a 35 USC 103 rejection in section 7 pages 5-6.

34 Inventors Engle et al, US Patent 5541622 issued 7/30/1996 was relied upon against applicant's US Patent application 09/253263 in an Office Action dated 3/272001. In that Office Action Examiner A. Jankus asserted a 35 USC 103 rejection in section 2 pages 2-4.

35 Inventor Loop, US Patent 5812114 issued 9/22/1998 was relied upon against applicant's US Patent application 09/566678 in an Office Action wherein Examiner C. Nguyen asserted a 35 USC 102 rejection in section 2 and a 35 USC 103 rejection in section 4 pages 2-4.

36 Inventors Sayler et al, US Patent 5923317 issued 7/13/1999 was relied upon against applicant's US Patent application 09/566678 in an Office Action wherein Examiner C. Nguyen asserted a 35 USC 103 rejection in section 4 pages 3-4.

37 Inventors Kobayashi et al, US Patent 5355352 issued 10/11/1994 was relied upon against applicant's US Patent application 09/568662 in an Office Action dated 3/15/2001. In that Office Action Examiner J. Paradiso asserted a 35 USC 103 rejection in sections 8-16 pages 4-11.

37 Inventors Kobayashi et al, US Patent 5355352 issued 10/11/1994 was relied upon against applicant's US Patent application 09/702176 in an Office Action dated 3/14/2001. In that Office Action Examiner J. Paradiso asserted a 35 USC 103 rejection in sections 10-12 pages 4-7.

37 Inventors Kobayashi et al, US Patent 5355352 issued 10/11/1994 was relied upon against applicant's US Patent application 09/699926 in an Office Action dated 3/2/2001. In that Office Action Examiner J. Paradiso asserted a 35 USC 103 rejection in sections 6-7 pages 3-4.

37 Inventors Kobayashi et al, US Patent 5355352 issued 10/11/1994 was relied upon against applicant's US Patent application 09/699926 in an Office Action dated 3/12/2002. In that Office Action Examiner J. Paradiso asserted a 35 USC 103 rejection in sections 5-7 pages 3-5.

37 Inventors Kobayashi et al, US Patent 5355352 issued 10/11/1994 was relied upon against applicant's US Patent application 09/699799 in an Office Action dated 10/3/2001. In that Office Action Examiner J. Paradiso asserted a 35 USC 103 rejection in sections 7-8 pages 4-6.

37 Inventors Kobayashi et al, US Patent 5355352 issued 10/11/1994 was relied upon against applicant's US Patent application 09/699853 in an Office Action dated 3/14/2001. In that Office Action Examiner J. Paradiso asserted a 35 USC 103 rejection in sections 10-11 pages 4-6.

37 Inventors Kobayashi et al, US Patent 5355352 issued 10/11/1994 was relied upon against applicant's US Patent application 09/699809 in an Office Action dated 3/14/2001. In that Office Action Examiner J. Paradiso asserted a 35 USC 103 rejection in sections 10-12 pages 4-7.

37 Inventors Kobayashi et al, US Patent 5355352 issued 10/11/1994 was relied upon against applicant's US Patent application 09/699809 in an Office Action dated 3/14/2001. In that Office Action Examiner J. Paradiso asserted a 35 USC 103 rejection in sections 10-12 pages 4-7.

37 Inventors Kobayashi et al, US Patent 5355352 issued 10/11/1994 was relied upon against applicant's US Patent application 09/699809 in an Office Action dated 3/22/2002. In that Office Action Examiner J. Paradiso asserted a 35 USC 103 rejection in sections 10-12 pages 4-7.

37 Inventors Kobayashi et al, US Patent 5355352 issued 10/11/1994 was relied upon against applicant's US Patent application 09/699854 in an Office Action dated 3/14/2001. In that Office Action Examiner J. Paradiso asserted a 35 USC 103 rejection in sections 10-12 pages 4-7.

37 Inventors Kobayashi et al, US Patent 5355352 issued 10/11/1994 was relied upon against applicant's US Patent application 09/699655 in an Office Action dated 5/25/2001. In that Office Action Examiner J. Paradiso asserted a 35 USC 103 rejection in sections 10-12 pages 4-7.

37 Inventors Kobayashi et al, US Patent 5355352 issued 10/11/1994 was relied upon against applicant's US Patent application 09/699826 in an Office Action dated 3/14/2001. In that Office Action Examiner J. Paradiso asserted a 35 USC 103 rejection in sections 10-11 pages 4-6.

37 Inventors Kobayashi et al, US Patent 5355352 issued 10/11/1994 was relied upon against applicant's US Patent application 09/702091 in an Office Action dated 2/28/2001. In that Office Action Examiner J. Paradiso asserted a 35 USC 103 rejection in sections 10-11 pages 4-6.

37 Inventors Kobayashi et al, US Patent 5355352 issued 10/11/1994 was relied upon against applicant's US Patent application 09/699816 in an Office Action dated 4/25/2001. In that Office Action Examiner J. Paradiso asserted a 35 USC 103 rejection in sections 10-12 pages 4-7.

37 Inventors Kobayashi et al, US Patent 5355352 issued 10/11/1994 was relied upon against applicant's US Patent application 09/733435 in an Office Action dated 4/25/2001. In that Office Action Examiner J. Paradiso asserted a 35 USC 103 rejection in sections 9-11 pages 4-7.

37 Inventors Kobayashi et al, US Patent 5355352 issued 10/11/1994 was relied upon against applicant's US Patent application 09/733468 in an Office Action dated 4/25/2001. In that Office Action Examiner J. Paradiso asserted a 35 USC 103 rejection in sections 9-11 pages 4-6.

37 Inventors Kobayashi et al, US Patent 5355352 issued 10/11/1994 was relied upon against applicant's US Patent application 09/733586 in an Office Action dated 9/212001. In that Office Action Examiner J. Paradiso asserted a 35 USC 103 rejection in sections 14-16 pages 4-7.

37 Inventors Kobayashi et al, US Patent 5355352 issued 10/11/1994 was relied upon against applicant's US Patent application 09/733437 in an Office Action dated 12/18/2001. In that Office Action Examiner J. Paradiso asserted a 35 USC 103 rejection in sections 10-13 pages 5-7.

38 Inventors O'Mara et al, US Patent 5510812 issued 4/23/1996 was relied upon against applicant's US Patent application 09/568662 in an Office Action dated 3/15/2001. In that Office Action Examiner J. Paradiso asserted a 35 USC 103 rejection in sections 8-16 pages 4-11.

38 Inventors O'Mara et al, US Patent 5510812 issued 4/23/1996 was relied upon against applicant's US Patent application 09/702176 in an Office Action dated 3/14/2001. In that Office Action Examiner J. Paradiso asserted a 35 USC 103 rejection in sections 10-12 pages 4-7.

38 Inventors O'Mara et al, US Patent 5510812 issued 4/23/1996 was relied upon against applicant's US Patent application 09/699926 in an Office Action dated 3/2/2001. In that Office Action Examiner J. Paradiso asserted a 35 USC 103 rejection in sections 6-7 pages 3-4.

38 Inventors O'Mara et al, US Patent 5510812 issued 4/23/1996 was relied upon against applicant's US Patent application 09/699926 in an Office Action dated 3/12/2001. In that Office Action Examiner J. Paradiso asserted a 35 USC 103 rejection in section 7 page 5.

38 Inventors O'Mara et al, US Patent 5510812 issued 4/23/1996 was relied upon against applicant's US Patent application 09/699817 in an Office Action dated 11/30/2001. In that Office Action Examiner J. Paradiso asserted a 35 USC 103 rejection in sections 10-11 pages 4-6.

38 Inventors O'Mara et al, US Patent 5510812 issued 4/23/1996 was relied upon against applicant's US Patent application 09/699799 in an Office Action dated 10/3/2001. In that Office Action Examiner J. Paradiso asserted a 35 USC 103 rejection in sections 7-8 pages 4-6.

38 Inventors O'Mara et al, US Patent 5510812 issued 4/23/1996 was relied upon against applicant's US Patent application 09/699853 in an Office Action dated 3/14/2001. In that Office Action Examiner J. Paradiso asserted a 35 USC 103 rejection in sections 10-11 pages 4-6.

38 Inventors O'Mara et al, US Patent 5510812 issued 4/23/1996 was relied upon against applicant's US Patent application 09/699809 in an Office Action dated 3/14/2001. In that Office Action Examiner J. Paradiso asserted a 35 USC 103 rejection in sections 10-12 pages 4-7.

38 Inventors O'Mara et al, US Patent 5510812 issued 4/23/1996 was relied upon against applicant's US Patent application 09/699809 in an Office Action dated 3/22/2002. In that Office Action Examiner J. Paradiso asserted a 35 USC 103 rejection in sections 4, 6 pages 3-5.

38 Inventors O'Mara et al, US Patent 5510812 issued 4/23/1996 was relied upon against applicant's US Patent application 09/699854 in an Office Action dated 3/14/2001. In that Office Action Examiner J. Paradiso asserted a 35 USC 103 rejection in sections 10-12 pages 4-7.

38 Inventors O'Mara et al, US Patent 5510812 issued 4/23/1996 was relied upon against applicant's US Patent application 09/699655 in an Office Action dated 5/25/2001. In that Office Action Examiner J. Paradiso asserted a 35 USC 103 rejection in sections 10-12 pages 4-7.

38 Inventors O'Mara et al, US Patent 5510812 issued 4/23/1996 was relied upon against applicant's US Patent application 09/699826 in an Office Action dated 3/14/2001. In that Office Action Examiner J. Paradiso asserted a 35 USC 103 rejection in sections 10-11 pages 4-6.

38 Inventors O'Mara et al, US Patent 5510812 issued 4/23/1996 was relied upon against applicant's US Patent application 09/702091 in an Office Action dated 2/28/2001. In that Office Action Examiner J. Paradiso asserted a 35 USC 103 rejection in sections 10-11 pages 4-6

38 Inventors O'Mara et al, US Patent 5510812 issued 4/23/1996 was relied upon against applicant's US Patent application 09/699816 in an Office Action dated 4/25/2001. In that Office Action Examiner J. Paradiso asserted a 35 USC 103 rejection in sections 10-12 pages 4-7.

38 Inventors O'Mara et al, US Patent 5510812 issued 4/23/1996 was relied upon against applicant's US Patent application 09/733435 in an Office Action dated 4/25/2001. In that Office Action Examiner J. Paradiso asserted a 35 USC 103 rejection in sections 9-11 pages 4-7.

38 Inventors O'Mara et al, US Patent 5510812 issued 4/23/1996 was relied upon against applicant's US Patent application 09/733468 in an Office Action dated 4/24/2001. In that Office Action Examiner J. Paradiso asserted a 35 USC 103 rejection in sections 9-11 pages 4-6.

38 Inventors O'Mara et al, US Patent 5510812 issued 4/23/1996 was relied upon against applicant's US Patent application 09/733469 in an Office Action dated 5/23/2001. In that Office Action Examiner J. Paradiso asserted a 35 USC 103 rejection in sections 9-11 pages 4-7.

38 Inventors O'Mara et al, US Patent 5510812 issued 4/23/1996 was relied upon against applicant's US Patent application 09/733586 in an Office Action dated 9/21/2001. In that Office Action Examiner J. Paradiso asserted a 35 USC 103 rejection in sections 14-16 pages 4-7.

38 Inventors O'Mara et al, US Patent 5510812 issued 4/23/1996 was relied upon against applicant's US Patent application 09/733437 in an Office Action dated 12/18/2001. In that Office Action Examiner J. Paradiso asserted a 35 USC 103 rejection in sections 10-13 pages 5-7.

38 Inventors O'Mara et al, US Patent 5510812 issued 4/23/1996 was relied upon as a PCT "Y" reference (used in obviousness) against applicant's PCT application No. PCT/US00/33253 in an Office Action dated April 11, 2001 by Examiner J. Paradiso.

38 Inventors O'Mara et al, US Patent 5510812 issued 4/23/1996 was relied upon as a PCT "Y" reference (used in obviousness)against applicant's PCT application No. PCT/US00/33397 in an Office Action dated April 19, 2001 by Examiner J. Paradiso.

39 Inventor Lynch, US Patent 5365494 issued 11/15/1994 was relied upon against applicant's US Patent application 09/568662 in an Office Action dated 3/15/2001. In that Office Action Examiner J. Paradiso asserted a 35 USC 103 rejection in section 9 page 6.

39 Inventor Lynch, US Patent 5365494 issued 11/15/1994 was relied upon against applicant's US Patent application 09/702176 in an Office Action dated 3/14/2001. In that Office Action Examiner J. Paradiso asserted a 35 USC 103 rejection in section 11 page 6.

39 Inventor Lynch, US Patent 5365494 issued 11/15/1994 was relied upon against applicant's US Patent application 09/699926 in an Office Action dated 3/2/2001. In that Office Action Examiner J. Paradiso asserted a 35 USC 103 rejection in section 7 page 4.

39 Inventor Lynch, US Patent 5365494 issued 11/15/1994 was relied upon against applicant's US Patent application 09/699817 in an Office Action dated 11/30/2001. In that Office Action Examiner J. Paradiso asserted a 35 USC 103 rejection in section 11 page 6.

39 Inventor Lynch, US Patent 5365494 issued 11/15/1994 was relied upon against applicant's US Patent application 09/699799 in an Office Action dated 10/3/2001. In that Office Action Examiner J. Paradiso asserted a 35 USC 103 rejection in section 8 page 6.

39 Inventor Lynch, US Patent 5365494 issued 11/15/1994 was relied upon against applicant's US Patent application 09/699853 in an Office Action dated 3/14/2001. In that Office Action Examiner J. Paradiso asserted a 35 USC 103 rejection in section 11 page 6.

39 Inventor Lynch, US Patent 5365494 issued 11/15/1994 was relied upon against applicant's US Patent application 09/699809 in an Office Action dated 3/14/2001. In that Office Action Examiner J. Paradiso asserted a 35 USC 103 rejection in section 11 page 6.

39 Inventor Lynch, US Patent 5365494 issued 11/15/1994 was relied upon against applicant's US Patent application 09/699854 in an Office Action dated 3/14/2001. In that Office Action Examiner J. Paradiso asserted a 35 USC 103 rejection in section 11 page 6.

39 Inventor Lynch, US Patent 5365494 issued 11/15/1994 was relied upon against applicant's US Patent application 09/699655 in an Office Action dated 5/25/2001. In that Office Action Examiner J. Paradiso asserted a 35 USC 103 rejection in section 11 page 6.

39 Inventor Lynch, US Patent 5365494 issued 11/15/1994 was relied upon against applicant's US Patent application 09/699826 in an Office Action dated 3/14/2001. In that Office Action Examiner J. Paradiso asserted a 35 USC 103 rejection in section 11 page 6.

39 Inventor Lynch, US Patent 5365494 issued 11/15/1994 was relied upon against applicant's US Patent application 09/702091 in an Office Action dated 2/28/2001. In that Office Action Examiner J. Paradiso asserted a 35 USC 103 rejection in section 11 page 6.

39 Inventor Lynch, US Patent 5365494 issued 11/15/1994 was relied upon against applicant's US Patent application 09/699816 in an Office Action dated 4/25/2001. In that Office Action Examiner J. Paradiso asserted a 35 USC 103 rejection in sections 11-12 pages 6-7.

39 Inventor Lynch, US Patent 5365494 issued 11/15/1994 was relied upon against applicant's US Patent application 09/733435 in an Office Action dated 4/25/2001. In that Office Action Examiner J. Paradiso asserted a 35 USC 103 rejection in sections 10-11 pages 6-7.

39 Inventor Lynch, US Patent 5365494 issued 11/15/1994 was relied upon against applicant's US Patent application 09/733468 in an Office Action dated 4/24/2001. In that Office Action Examiner J. Paradiso asserted a 35 USC 103 rejection in sections 10-11 pages 5-6.

39 Inventor Lynch, US Patent 5365494 issued 11/15/1994 was relied upon against applicant's US Patent application 09/733469 in an Office Action dated 5/23/2001. In that Office Action Examiner J. Paradiso asserted a 35 USC 103 rejection in section 10 page 6.

39 Inventor Lynch, US Patent 5365494 issued 11/15/1994 was relied upon against applicant's US Patent application 09/733586 in an Office Action dated 9/21/2001. In that Office Action Examiner J. Paradiso asserted a 35 USC 103 rejection in section 15 page 6.

39 Inventor Lynch, US Patent 5365494 issued 11/15/1994 was relied upon against applicant's US Patent application 09/733437 in an Office Action dated 12/18/2001. In that Office Action Examiner J. Paradiso asserted a 35 USC 103 rejection in section 11 page 6.

40 Inventor Kane, US Patent 6112014 issued 8/29/2000 was relied upon against applicant's US Patent application 09/568662 in an Office Action dated 3/15/2001. In that Office Action Examiner J. Paradiso asserted a 35 USC 103 rejection in section 10 page 7.

41 Inventor Mason, US Patent 4158759 issued 6/19/1979 was relied upon against applicant's US Patent application 09/568662 in an Office Action dated 3/15/2001. In that Office Action Examiner J. Paradiso asserted a 35 USC 103 rejection in section 11 pages 7-8.

41 Inventor Mason, US Patent 4158759 issued 6/19/1979 was relied upon against applicant's US Patent application 09/733435 in an Office Action dated 4/25/2001. In that Office Action Examiner J. Paradiso asserted a 35 USC 103 rejection in section 11 page 7.

42 Inventor Oota, US Patent 4406217 issued 9/27/1983 was relied upon against applicant's US Patent application 09/568662 in an Office Action dated 3/15/2001. In that Office Action Examiner J. Paradiso asserted a 35 USC 103 rejection in section 12 page 8.

42 Inventor Oota, US Patent 4406217 issued 9/27/1983 was relied upon against applicant's US Patent application 09/699816 in an Office Action dated 4/25/2001. In that Office Action Examiner J. Paradiso asserted a 35 USC 103 rejection in section 12 page 7.

42 Inventor Oota, US Patent 4406217 issued 9/27/1983 was relied upon against applicant's US Patent application 09/733468 in an Office Action dated 4/24/2001. In that Office Action Examiner J. Paradiso asserted a 35 USC 103 rejection in section 11 page 6.

43 Inventors Sudo et al, US Patent 6198948 issued 3/6/2001was relied upon against applicant's US Patent application 09/568662 in an Office Action dated 3/15/2001. In that Office Action Examiner J. Paradiso asserted a 35 USC 103 rejection in section 13 pages 8-9.

43 Inventors Sudo et al, US Patent 6198948 issued 3/6/2001was relied upon against applicant's US Patent application 09/600655 in an Office Action dated 5/25/2001. In that Office Action Examiner J. Paradiso asserted a 35 USC 103 rejection in section 12 page 7.

44 Inventors Whalen et al, US Patent 5948066 issued 9/7/1999was relied upon against applicant's US Patent application 09/568662 in an Office Action dated 3/15/2001. In that Office Action Examiner J. Paradiso asserted a 35 USC 103 rejection in section 14 page 9.

44 Inventors Whalen et al, US Patent 5948066 issued 9/7/1999was relied upon against applicant's US Patent application 09/699854 in an Office Action dated 3/14/2001. In that Office Action Examiner J. Paradiso asserted a 35 USC 103 rejection in section 12 page7.

45 Inventors Yoshikawa et al, US Patent 5847305 issued 12/8/1998 was relied upon against applicant's US Patent application 09/568662 in an Office Action dated 3/15/2001. In that Office Action Examiner J. Paradiso asserted a 35 USC 103 rejection in section 15 page 10.

45 Inventors Yoshikawa et al, US Patent 5847305 issued 12/8/1998 was relied upon against applicant's US Patent application 09/699809 in an Office Action dated 3/14/2001. In that Office Action Examiner J. Paradiso asserted a 35 USC 103 rejection in section 12 page 7.

45 Inventors Yoshikawa et al, US Patent 5847305 issued 12/8/1998 was relied upon against applicant's US Patent application 09/699809 in an Office Action dated 3/22/2002. In that Office Action Examiner J. Paradiso asserted a 35 USC 103 rejection in sections 3-6 pages 2-5.

46 Inventor Powell, US Patent 6118979 issued 9/12/2000 was relied upon against applicant's US Patent application 09/568662 in an Office Action dated 3/15/2001. In that Office Action Examiner J. Paradiso asserted a 35 USC 103 rejection in section 16 pages 10-11.

46 Inventor Powell, US Patent 6118979 issued 9/12/2000 was relied upon against applicant's US Patent application 09/702176 in an Office Action dated 3/14/2001. In that Office Action Examiner J. Paradiso asserted a 35 USC 103 rejection in section 12 page 7.

47 Inventors Goto et al, US Patent 6231444 issued 5/15/2001 was relied upon against applicant's US Patent application 09/551513 in an Office Action dated 9/25/2001. In that Office Action Examiner S. Ashburn asserted a 35 USC 102 rejection on page 4.

47 Inventors Goto et al, US Patent 6231444 issued 5/15/2001 was relied upon against applicant's US Patent application 09/627564 in an Office Action dated 9/26/2001. In that Office Action Examiner S. Ashburn asserted a 35 USC 102 rejection on page 4.

47 Inventors Goto et al, US Patent 6231444 issued 5/15/2001 was relied upon against applicant's US Patent application 09/721848 in an Office Action dated 5/20/2002. In that Office Action Examiner D. Chow asserted a 35 USC 103 rejection in section 5 on pages 4-5.

48 Unexamined Japanese patent document No. JP 5-87760 naming Furukawa as Inventor published 11/26/1993 was relied upon against applicant's US patent application no. 09/702176 in an Office Action dated 3/13/2002. In that Office Action Examiner J. Paradiso asserted a 35 USC 103 rejection in sections 4-5 on pages 3-4.

48 Unexamined Japanese patent document No. JP 5-87760 naming Furukawa as Inventor published 11/26/1993 was relied upon against applicant's US patent application no. 09/699926 in an Office Action dated 3/12/2002. In that Office Action Examiner J. Paradiso asserted a 35 USC 103 rejection in sections 5-7 on pages 3-5.

48 Unexamined Japanese patent document No. JP 5-87760 naming Furukawa as Inventor published 11/26/1993 was relied upon against applicant's US patent application no. 09/699853 in an Office Action dated 1/17/2002. In that Office Action Examiner J. Paradiso asserted a 35 USC 103 rejection in sections 4-5, 7 on pages 3-5.

48 Unexamined Japanese patent document No. JP 5-87760 naming Furukawa as Inventor published 11/26/1993 was relied upon against applicant's US patent application no. 09/699809 in an Office Action dated 3/22/2002. In that Office Action Examiner J. Paradiso asserted a 35 USC 103 rejection in sections 3-6 on pages 2-5.

48 Unexamined Japanese patent document No. JP 5-87760 naming Furukawa as Inventor published 11/26/1993 was relied upon against applicant's US patent application no. 09/551513 in an Office Action dated 1/9/2002. In that Office Action Examiner S. Ashburn asserted a 35 USC 102 rejection and a 35 USC 103 rejection on pages 2-10.

48 Unexamined Japanese patent document No. JP 5-87760 naming Furukawa as Inventor published 11/26/1993 was relied upon against applicant's US patent application no. 09/551513 in an Office Action dated 9/25/2002. In that Office Action Examiner S. Ashburn asserted a 35 USC 102 rejection and a 35 USC 103 rejection on pages 3-6.

48 Unexamined Japanese patent document No. JP 5-87760 naming Furukawa as Inventor published 11/26/1993 was relied upon against applicant's US patent application no. 09/551513 in an Office Action dated 8/27/2003. In that Office Action Examiner S. Ashburn asserted a 35 USC 103 rejection on pages 4-6.

48 Unexamined Japanese patent document No. JP 5-87760 naming Furukawa as Inventor published 11/26/1993 was relied upon against applicant's US patent application no. 09/955838 in an Office Action dated 5/3/2002. In that Office Action Examiner K. Easthom asserted a 35 USC 102 rejection in section 5 and a 35 USC 103 rejection in section 7 on pages 4-5.

48 Unexamined Japanese patent document No. JP 5-87760 naming Furukawa as Inventor published 11/26/1993 was relied upon against applicant's US patent application no. 09/955838 in an Office Action dated 7/12/2002. In that Office Action Examiner K. Easthom asserted a 35 USC 102 rejection in section 6 on page 4.

48 Unexamined Japanese patent document No. JP 5-87760 naming Furukawa as Inventor published 11/26/1993 was relied upon against applicant's US patent application no. 10/042027 in an Office Action dated 3/14/2002. In that Office Action Examiner J. Paradiso asserted a 35 USC 103 rejection in sections 3-4 on pages 2-4.

48 Unexamined Japanese patent document No. JP 5-87760 naming Furukawa as Inventor published 11/26/1993 was relied upon against applicant's US patent application no. 10/042027 in an Office Action dated 12/4/2002. In that Office Action Examiner J. Paradiso asserted a 35 USC 103 rejection in sections 2-3 on pages 2-4.

48 Unexamined Japanese patent document No. JP 5-87760 naming Furukawa as Inventor published 11/26/1993 was relied upon against applicant's US patent application no. 09/896680 in an Office Action dated 7/31/2003. In that Office Action Examiner A. Enatsky asserted a 35 USC 102 rejection and a 35 USC 103 rejection on pages 2-5.

48 Unexamined Japanese patent document No. JP 5-87760 naming Furukawa as Inventor published 11/26/1993 was relied upon against applicant's US patent application no. 10/329142 in an Office Action dated 6/12/2003. In that Office Action Examiner S. Jones asserted a 35 USC 103 rejection in section 10 on pages 5-9.

49 Inventor LaDue, US Patent 5999808 issued 12/7/1999 was relied upon against applicant's US patent application no. 09/551513 in an Office Action dated 1/9/2002. In that Office Action Examiner S. Ashburn asserted a 35 USC 102 rejection on pages 3-4.

50 Inventor Park, US Patent 5315204 issued 5/24/1994 was relied upon against applicant's US patent application no. 09/551513 in an Office Action dated 1/9/2002. In that Office Action Examiner S. Ashburn asserted a 35 USC 103 rejection on pages 5-7.

50 Inventor Park, US Patent 5315204 issued 5/24/1994 was relied upon against applicant's US patent application no. 09/551513 in an Office Action dated 9/25/2002. In that Office Action Examiner S. Ashburn asserted a 35 USC 103 rejection on page 3.

50 Inventor Park, US Patent 5315204 issued 5/24/1994 was relied upon against applicant's PCT application no. PCT/US99/28914 in an Office Action dated April 26, 2000. In that Action Park was relied upon as a PCT "X" reference (lack of novelty indicated by "X") and also as a PCT "Y" reference (used in obviousness) by Examiner M. Zambuto.

51 Inventor Okada, US Patent 5184830 issued 2/9/1993 was relied upon against applicant's US patent application no. 09/551513 in an Office Action dated 1/9/2002. In that Office Action Examiner S. Ashburn asserted a 35 USC 103 rejection on page 7.

51 Inventor Okada, US Patent 5184830 issued 2/9/1993 was relied upon against applicant's US patent application no. 09/551513 in an Office Action dated 9/25/2002. In that Office Action Examiner S. Ashburn asserted a 35 USC 103 rejection on page 3.

51 Inventor Okada, US Patent 5184830 issued 2/9/1993 was relied upon against applicant's US patent application no. 09/551513 in an Office Action dated 8/27/2003. In that Office Action Examiner S. Ashburn asserted a 35 USC 103 rejection on pages 2-6.

52 Inventor Chiang, US Patent 5294121 issued 3/15/1994 was relied upon against applicant's US patent application no. 09/551513 in an Office Action dated 1/9/2002. In that Office Action Examiner S. Ashburn asserted a 35 USC 103 rejection on pages 7-8.

52 Inventor Chiang, US Patent 5294121 issued 3/15/1994 was relied upon against applicant's US patent application no. 09/551513 in an Office Action dated 9/25/2002. In that Office Action Examiner S. Ashburn asserted a 35 USC 103 rejection on page 4.

53 Inventor Hasiguchi, US Patent 5552799 issued 9/3/1996 was relied upon against applicant's US patent application no. 09/551513 in an Office Action dated 1/9/2002. In that Office Action Examiner S. Ashburn asserted a 35 USC 103 rejection on pages 8-9.

53 Inventor Hasiguchi, US Patent 5552799 issued 9/3/1996 was relied upon against applicant's US patent application no. 09/551513 in an Office Action dated 9/25/2002. In that Office Action Examiner S. Ashburn asserted a 35 USC 103 rejection on page 4.

54 Inventor Sato, US Patent 4858930 issued 8/22/1989 was relied upon against applicant's US patent application no. 09/551513 in an Office Action dated 1/9/2002. In that Office Action Examiner S. Ashburn asserted a 35 USC 103 rejection on pages 8-9.

54 Inventor Sato, US Patent 4858930 issued 8/22/1989 was relied upon against applicant's US patent application no. 09/551513 in an Office Action dated 9/25/2002. In that Office Action Examiner S. Ashburn asserted a 35 USC 103 rejection on page 4.

55 Inventors Okada et al, US Patent 5396225 issued 3/7/1995 was relied upon against applicant's US patent application no. 09/551513 in an Office Action dated 9/25/2002. In that Office Action Examiner S. Ashburn asserted a 35 USC 103 rejection on pages 5-6.

56 Inventor Hahn, US Patent 6027828 issued 2/22/2000 was relied upon against applicant's US patent application no. 09/551513 in an Office Action dated 8/27/2003. In that Office Action Examiner S. Ashburn asserted a 35 USC 103 rejection on pages 2-6.

57 Inventor Souliere, US Patent 5389757 issued 2/14/1995 was relied upon against applicant's US patent application no. 09/551513 in an Office Action dated 8/27/2003. In that Office Action Examiner S. Ashburn asserted a 35 USC 103 rejection on page 6.

58 Inventor Kramer, US Patent 5164697 issued 11/17/1992 was relied upon against applicant's US patent application no. 09/455821in an Office Action dated 4/19/2000. In that Office Action Examiner K. Easthom asserted a 35 USC 103 rejection in section 7 on pages 3-4.

58 Inventor Kramer, US Patent 5164697 issued 11/17/1992 was relied upon against applicant's US patent application no. 09/455821in an Office Action dated 5/3/2002. In that Office Action Examiner K. Easthom asserted a 35 USC 102 rejection in section 5 and also a 35 USC 103 rejection in section 7 on pages 4-5.

59 Inventors Murata et al, GB patent document No. GB 2113920 published 8/10/1983 was relied upon against applicant's US patent application no. 09/455821in an Office Action dated 4/19/2000. In that Office Action Examiner K. Easthom asserted a 35 USC 103 rejection in section 7 on pages 3-4.

60 Inventors Minelli et al, US Patent 5564560 issued 10/15/1996 was relied upon against applicant's US patent application no. 10/042027in an Office Action dated 3/14/2002. In that Office Action Examiner J. Paradiso asserted a 35 USC 103 rejection in section 4 on page 4.

60 Inventors Minelli et al, US Patent 5564560 issued 10/15/1996 was relied upon against applicant's US patent application no. 10/042027in an Office Action dated 12/4/2002. In that Office Action Examiner J. Paradiso asserted a 35 USC 103 rejection in section 3 on page 4.

60 Inventors Minelli et al, US Patent 5564560 issued 10/15/1996 was relied upon against applicant's US patent application no. 09/702176 in an Office Action dated 3/13/2002. In that Office Action Examiner J. Paradiso asserted a 35 USC 103 rejection in section 5 on page 4.

60 Inventors Minelli et al, US Patent 5564560 issued 10/15/1996 was relied upon against applicant's US patent application no. 09/699926 in an Office Action dated 3/12/2002. In that Office Action Examiner J. Paradiso asserted a 35 USC 103 rejection in sections 6-7on pages 4-5.

60 Inventors Minelli et al, US Patent 5564560 issued 10/15/1996 was relied upon against applicant's US patent application no. 09/699809 in an Office Action dated 3/22/2002. In that Office Action Examiner J. Paradiso asserted a 35 USC 103 rejection in sections 5-6 on pages 4-5.

61 Japanese unexamined patent document No. JP 7-302159 published 11/14/1995 naming Inventors Terajima et al was relied upon against applicant's US patent application no. 09/896680 in an Office Action dated 7/31/2003. In that Office Action Examiner A. Enatsky asserted a 35 USC 103 rejection on pages 4-5.

61 Japanese unexamined patent document No. JP 7-302159 published 11/14/1995 naming Inventors Terajima et al was relied upon against applicant's US patent application no. 10/329142 in an Office Action dated 6/12/2003. In that Office Action Examiner S. Jones asserted a 35 USC 103 rejection in section 10 on pages 5-9.

62 Inventor Chandler, US Patent 4246452 issued 1/20/1981 was relied upon against applicant's US patent application no. 09/721848 in an Office Action dated 12/5/2001. In that Office Action Examiner D. Chow asserted a 35 USC 103 rejection in sections 2-4 on pages 2-4.

62 Inventor Chandler, US Patent 4246452 issued 1/20/1981 was relied upon against applicant's US patent application no. 09/721848 in an Office Action dated 5/202002. In that Office Action Examiner D. Chow asserted a 35 USC 103 rejection in sections 2-4 on pages 2-4.

63 Inventor Culver, US Patent 6256011 issued 7/3/2001 was relied upon against applicant's US patent application no. 09/721848 in an Office Action dated 12/5/2001. In that Office Action Examiner D. Chow asserted a 35 USC 103 rejection in sections 2-4 on pages 2-4.

63 Inventor Culver, US Patent 6256011 issued 7/3/2001 was relied upon against applicant's US patent application no. 09/721848 in an Office Action dated 5/20/2002. In that Office Action Examiner D. Chow asserted a 35 USC 103 rejection in sections 2-4 on pages 2-4.

64 Inventor Loper, US Patent 5203563 issued 4/20/1993 was relied upon against applicant's US patent application no. 09/721848 in an Office Action dated 12/5/2001. In that Office Action Examiner D. Chow asserted a 35 USC 102 rejection in section 6 and a 35 USC 103 in section 7 on pages 4-5.

64 Inventor Loper, US Patent 5203563 issued 4/20/1993 was relied upon against applicant's US patent application no. 09/710557 in an Office Action dated 12/4/2001. In that Office Action Examiner D. Chow asserted a 35 USC 102 rejection in section 4 and a 35 USC 103 in sections 2,5 on pages 2-4.

65 Inventors Kobachi et al, US Patent 6326948 issued 12/4/2001 was relied upon against applicant's US patent application no. 09/721848 in an Office Action dated 5/20/2002. In that Office Action Examiner D. Chow asserted a 35 USC 103 rejection in section 5 on pages 4-5.

66 Inventors Ogata et al, US Patent 6001014 issued 12/14/1999 was relied upon against applicant's US patent application no. 09/710557 in an Office Action dated 5/20/2002. In that Office Action Examiner D. Chow asserted a 35 USC 103 rejection in sections 2-3 on pages 2-3.

67 Inventors Straayer et al, US Patent 4680577 issued 7/14/1987 was relied upon against applicant's US patent application no. 09/941310 in an Office Action dated 4/8/2003. In that Office Action Examiner A. Jankus asserted a 35 USC 102 rejection in section 3 on pages 2-3.

68 Inventors Ganucheau et al, US Patent 5543781 issued 8/6/1996 was relied upon against applicant's US patent application no. 09/702176 in an Office Action dated 3/13/2002. In that Office Action Examiner J. Paradiso asserted a 35 USC 103 rejection in sections 4-5 on pages 3-4.

69 Inventors DeLorme et al, US Patent 6321158 issued 11/20/2001 was relied upon against applicant's US patent application no. 09/702176 in an Office Action dated 3/13/2002. In that Office Action Examiner J. Paradiso asserted a 35 USC 103 rejection in section 4 on page 3.

69 Inventors DeLorme et al, US Patent 6321158 issued 11/20/2001 was relied upon against applicant's US patent application no. 09/699853 in an Office Action dated 1/17/2002. In that Office Action Examiner J. Paradiso asserted a 35 USC 103 rejection in sections 4-5, 7 on pages 3-5.

70 Inventors Coleman et al, US Patent 5327201 issued 7/5/1994 was relied upon against applicant's US patent application no. 09/699817 in an Office Action dated 11/30/2001. In that Office Action Examiner J. Paradiso asserted a 35 USC 103 rejection in sections 10-11 on pages 4-6.

71 Inventor Kunert, US Patent 6177926 issued 1/23/2001 was relied upon against applicant's US patent application no. 09/699853 in an Office Action dated 11/17/2002. In that Office Action Examiner J. Paradiso asserted a 35 USC 103 rejection in section 5 on page 4.

72 Inventors McKee et al, US Patent 6262406 issued 7/17/2001 was relied upon against applicant's US patent application no. 09/702239 in an Office Action dated 12/1/2002. In that Office Action Examiner J. Paradiso asserted a 35 USC 102 rejection in section 10 on page 4.

73 Inventors Butts et al, US Patent 5345807 issued 9/13/1994 was relied upon against applicant's US patent application no. 09/702239 in an Office Action dated 7/30/2003. In that Office Action Examiner A. Enatsky asserted a 35 USC 102 rejection and also a 35 USC 103 rejection on pages 2-3.

73 Inventors Butts et al, US Patent 5345807 issued 9/13/1994 was relied upon against applicant's US patent application no. 09/733468 in an Office Action dated 8/26/2003. In that Office Action Examiner A. Enatsky asserted a 35 USC 102 rejection and also a 35 USC 103 rejection on pages 3-4.

74 Inventor McCusker, US Patent 5399823 issued 3/21/1995 was relied upon against applicant's US patent application no. 09/733468 in an Office Action dated 8/26/2003. In that Office Action Examiner A. Enatsky asserted a 35 USC 103 rejection on pages 3-4.

75 Inventors Kondur et al, US Patent 3993884 issued 11/23/1976 was relied upon against applicant's US patent application no. 09/733468 in an Office Action dated 8/26/2003. In that Office Action Examiner A. Enatsky asserted a 35 USC 103 rejection on pages 3-4.

76 Inventor Burrell, US Patent 5910882 issued 6/8/1999 was relied upon against applicant's US patent application no. 09/733469 in an Office Action dated 5/23/2001. In that Office Action Examiner J. Paradiso asserted a 35 USC 103 rejection in section 11 on page 7.

77 Inventors Takamiya et al, US Patent 4133012 issued 1/2/1979 was relied upon against applicant's US patent application no. 09/733586 in an Office Action dated 9/21/2001. In that Office Action Examiner J. Paradiso asserted a 35 USC 103 rejection in section 16 on page 7.

78 Inventors Shaw et al, US Patent 5983004 issued 11/9/1999 was relied upon against applicant's US patent application no. 09/733437 in an Office Action dated 12/18/2001. In that Office Examiner Action J. Paradiso asserted a 35 USC 103 rejection in section 12 on page 7.

79 Inventors Glassgold et al, US Patent 5781807 issued 7/14/1998 was relied upon against applicant's US application no. 09/733437 in an Office Action dated 12/18/2001. In that Office Examiner J. Paradiso asserted a 35 USC 103 rejection in section 13 on page 7.

80 Inventor Mitchell, US Patent 3806471 issued 4/23/1974 was relied upon against applicant's PCT application no. PCT/US99/28654 in an Office Action dated March 15, 2000. In that Office Examiner L. Libberecth asserted that the US Patent 3806471 reference was a PCT "Y" type reference (used in obviousness).

81 Assignee Nintendo, patent document EP0470615 published was relied upon against applicant's PCT application no. PCT/US99/28654 in an Office Action dated March 15, 2000. In that Office Examiner L. Libberecth asserted that the EP0470615 reference was a PCT "Y" type reference (used in obviousness).

82 Assignee Thomson Brandt, patent document DE3542890 published June 19, 1987 was relied upon against applicant's PCT application no. PCT/US99/28654 in an Office Action dated March

15, 2000. In that Office Examiner L. Libberecth asserted that the DE3542890 reference was a PCT "Y" type reference (used in obviousness).

83 Inventor Brown, US Patent 5440237 issued 8/8/1995 was relied upon against applicant's PCT application no. PCT/US99/28914 in an Office Action dated April 26, 2000. In that Office Examiner M. Zambuto asserted that the 5440237 reference was a PCT "Y" type reference (used in obviousness).

84 Assignee Texas Instruments, patent document EP0579448 published January 19, 1994 was relied upon against applicant's PCT application no. PCT/US99/28914 in an Office Action dated April 26, 2000. In that Office Examiner M. Zambuto asserted that the EP0579448 reference was a PCT "Y" type reference (used in obviousness).

85 Inventor Hilton, US Patent 5222400 issued June 29, 1993 was relied upon against applicant's PCT application no. PCT/US99/28913 in an Office Action dated May 26, 2000. In that Office Examiner M. . Baldan asserted that the 5222400 reference was a PCT "Y" type reference (used in obviousness).

86 Inventor Gobeli, US Patent 4536746 issued August 20,1985 was relied upon against applicant's PCT application no. PCT/US99/28913 in an Office Action dated May 26, 2000. In that Office Examiner M.. . Baldan asserted that the 4536746 reference was a PCT "Y" type reference (used in obviousness).

87 Inventor Armstrong, US Patent 5589828 issued Dec. 31, 1996 was relied upon against applicant's PCT application no. PCT/US99/28913 in an Office Action dated April 19, 2002. In that Office Action Examiner J. Brier asserted that the 5589828 reference was a PCT "X" type (lack of novelty indicated by "X") and also a PCT "Y" type reference (used in obviousness).

88 Inventor Armstrong, US Patent 5565891 issued Oct. 15, 1996 was relied upon against applicant's PCT application no. PCT/US99/28913 in an Office Action dated April 19, 2002. In that Office Action Examiner J. Brier asserted that the 5589828 reference was a PCT "X" type reference (lack of novelty indicated by "X").

89 Assignee Synaptics, patent document WO9718508 published May 22, 1997 was relied upon against applicant's PCT application no. PCT/US99/28956 in an Office Action dated April 27, 2000. In that Office Action Examiner P. Pham asserted that the WO9718508 reference was a PCT "X" type (lack of novelty indicated by "X").

90 Inventors Maeshima et al, US Patent 5396235 issued March 7, 1995 was relied upon against applicant's PCT application no. PCT/US00/12840 in an Office Action dated Oct. 13, 2000. In that Office Action Examiner K. Wieder asserted that the 5396235 reference was a PCT "Y" type reference (used in obviousness).

91 Inventor Bersheim, US Patent 4491325 issued 1/1/1985 was relied upon against applicant's US patent application no. 08/707478 in an Office Action dated 5/30/1997. In that Office Action Examiner A. Wong asserted a 35 USC 102 rejection in section 3 and also a 35 USC 103 rejection in sections 6-8 on pages 2-5.

92 Inventor Thomas, US Patent 4604502 issued 8/5/1986 was relied upon against applicant's US patent application no. 08/707478 in an Office Action dated 5/30/1997. In that Office Action Examiner A. Wong asserted a 35 USC 103 rejection in section 7 on pages 4-5.

93 Inventor Corballis, US Patent 5512892 issued 4/30/1996 was relied upon against applicant's US patent application no. 08/707478 in an Office Action dated 5/30/1997. In that Office Action Examiner A. Wong asserted a 35 USC 103 rejection in section 6 on page 4.

94 Inventor Tano, US Patent 4909514 issued 3/20/1990 was relied upon against applicant's US patent application no. 08/707478 in an Office Action dated 5/30/1997. In that Office Action Examiner A. Wong asserted a 35 USC 102 rejection in section 4 and also a 35 USC 103 rejection in section 7 on pages 3-5.

95. Inventor Adan et al, US Patent Publication 2002/0036660 published Mar. 28, 2002 was relied upon against applicant's US patent application no. 09/754477 in an Office Action dated 09/25/2003. In that Office Action Examiner K. Nguyen asserted a 35 USC 102 rejection in section 7 and also a 35 USC 103 rejection in section 9 on pages 4-6.

96. Inventor Nassimi, US Patent 5,790,102 issued Aug. 4, 1998 was relied upon against applicant's US patent application no. 09/754477 in an Office Action dated 09/25/2003. In that Office Action Examiner K. Nguyen asserted a 35 USC 102 rejection in section 5 and also a 35 USC 103 rejection in section 9 on pages 4-6.

97. Inventor Poulsom of German Patent DE4013227 published 05/29/1991 is of particular interest and therefore Applicant is setting Poulsom out here for special consideration by the Examiner especially in regards to claims 165, 181-185 of Applicant's U.S. Patent Application 09/893,292 and

any future claims of Applicant's including a "platform" element. Applicant believes Poulsom does not anticipate or make obvious any of these claims for at least the reason that in Poulsom figures 2 and 3 joy stick 3 is a vertically structured element, not a "platform" (from applicants claims). In Applicant's claims a platform is a horizontally structured element with a greater dimension along the two axes of input than along the third axis, for examples of a platform please see U.S. Patent No. 5,589,828 figure 2 platform 232 and U.S. Patent No. 6,222,525 figure 21 platform type element 300, figure 32 platform type element 423, figure 36 platform type element 500, figure 13 platform type element 222; and for further examples meeting Applicant's definition of a "platform" please see U.S Patent 6,428,416 figure 2 platform type element 12, figure 4 platform type element 201, figure 5 platform type element 301, and U.S. Patent 6,524,187 figure 16 platform type element 211.

MS Non Fee
Commissioner for Patents
PO BOX 1450
Alexandria VA 22313-1450

CERTIFICATE OF EXPRESS MAILING

Sir:

I hereby certify that the complete attached response / document is being deposited with the United States Postal Service as EXPRESS mail article number ET418472837US, Post Office to Addressee, with sufficient postage pre-paid in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria VA 22313-1450

on this date: Dec. 5, 2003

Signature: Brad A Armstrong

Brad A. Armstrong

MS Non Fee
Commissioner for Patent
PO BOX 1450
Alexandria VA 22313-1450

INFORMATION DISCLOSURE STATEMENT

Re: Patent Application of Brad A. Armstrong

Applicant's reference F28

Application No.: 09/893,292

Filed: 06/26/01

Title: IMAGE CONTROLLER

Applicant's mailing address: Brad A. Armstrong
P.O. Box 1419
Paradise, CA 95967

Examiner: D. Chow

Group Art Unit: 2673

Dear Sir:

This Information Disclosure Statement (IDS) is being filed before the first Action on the merits, and therefore no fee for this submission is required.

The following sections below address disclosures of prior art and relevant art that may pertain to claims of this application and its Divisional applications.

1. As part of this Information Disclosure Statement are listings on modified 1449 forms of : A) US Patent References, B) Foreign Patent References, C) Non Patent Disclosures and Other References, and D) US Patent Application Publications.

Best full or partial copies which Applicant currently possesses of each of the Foreign Patent References and Non Patent Disclosures and Other References are included herewith. Applicant understands that the PTO now supplies its own copies of the US Patents and US Patent Applications cited in new patent applications. If this is not correct and Applicant is required to acquire paper copies from the PTO and then supply them to the PTO, please inform Applicant as soon as possible so that the copies can be ordered from the PTO and sent to the Examiner. Thank you.

The Foreign Patent References are in some cases foreign patents and in other cases patent applications.

For the Examiner's convenience, each of the four (A-D) above described lists includes a column with heading of "Previously Submitted" wherein a "yes" is applied in that column next to each reference which was Previously Submitted in the Preliminary Amendment of June 18, 2003. If there is no "yes" in that column then the reference is herein Newly submitted. Please consider all Previously and Newly submitted references during the examination of the present application and claims.

Each of the four above described lists includes references to Footnotes of Special Interest. The "Footnotes-References of Special Interest" are included to provide assistance to the Examiner while determining allowability of the claims. The Footnotes pertain to Office Actions. So that the Examiner may be fully informed of all objections made in the past by any Patent Examiner against any of Applicant's claims, Applicant herein includes a copy of each Office Action regarding Applicant's other Patent Applications wherein an Examiner relied upon reference art as indicating lack of novelty or indicating obviousness either alone or in combination for the then claimed invention. Many of these objections were later found by the Examiner of record to be overcome resulting in issuance of U.S. Patents, but only the objections are listed here for the sake of brevity and so that the current Examiner can be fully informed of all arguments made in the past by other PTO Examiners against Applicant's claims. The current Examiner is requested to contact Applicant if Applicant can answer any questions regarding any of these Office Actions or the inventions to which they pertain.

2. Applicant has also provided the below comments and included photographs regarding products once on the market. One such product is the CyberMan™ controller first sold in 1993 in the USA by Logitech Inc. 6505 Kaiser Dr., Fremont CA USA. Applicant believes he is the inventor of the CyberMan controller which was made without his permission after failed licensing negotiations regarding Applicant's US Patent Application No. 07/847,619 now Patent 5,589,828. Applicant believes the primary element disclosed in the CyberMan that was not taught in the '828 Patent is the membrane element. Membrane elements are taught in Applicant's US Patent Application No. 08/677,378 filed July 5, 1996. It appears to Applicant that the "one year bar" rule applies to the membrane connection of sensors as disclosed in CyberMan. Nevertheless the '378 Patent Application teaches a great variety of novel and unobvious utilizations of a membrane in unique combination with many important elements. Additionally the '378 application teaches many elements in inventive combination, numerous

structural variations and inventive leaps; both with and without the cost saving advantages taught in the '378 application of the membrane connecting to the circuit board without the expensive wiring harness of CyberMan. Many embodiments of the '378 application do not require use of a membrane to be novel and inventive. And many embodiments of the '378 application having a membrane are novel and inventive over the CyberMan disclosure.

Located at the top of the stack of Reference Art copies is a CyberMan disclosure containing 1) an advertisement flyer with the heading CyberMan 3D Controller and 2) photographs 1, 2 and 3 of the CyberMan Controller assembled and also disassembled. Photograph 1 shows the CyberMan in a top perspective view and showing a base, a handle and three buttons. Photograph 2 shows a portion of the CyberMan in a disassembled state and showing the handle, three buttons, a microswitch for one of the buttons, a wiring harness spanning between a membrane located in the handle and a circuit board located in the base. The three buttons each use normally-open momentary-On switches. No proportional pressure-sensors are used. Movement of the major plate is tracked by two bi-directional slide potentiometers (variable resistors), all other sensors are uni-directional sensors of a momentary-On On/Off only type. The major plate is moveable in two-axes. Photograph 3 shows a portion of the CyberMan in a disassembled state. Shown in photograph 3 is the handle in an upside-down position and having a motor with offset weight for providing active tactile feedback. Four metal dome On/Off switches on a 1st plane (two axes input), and two more On/Off switches located on a third and fourth planes (third axis) are all integrated with the flexible membrane. The membrane further has solder connections to two metal dome On/Off switches (fourth axis) and solder connections to the three On/Off microswitches associated with the finger depressible buttons.

The membrane is located in the handle and the circuit board is located in the base. The expensive conventional wiring harness spans between the

membrane in the handle and the circuit board in the base. The membrane does not physically engage, contact or connect to the circuit board. The membrane does not touch the circuit board and the membrane does not lay adjacent to the circuit board. The membrane is not adhered to the circuit board, directly connected to the circuit board, or otherwise in close proximity to the circuit board. All metal domes and physical switch packages are located on only one side of the membrane.

Regarding the circuit board, two sensors are located on only one side of the circuit board (the two bi-directional sliding potentiometers or variable resistors) the second side of the circuit board has no sensors located on it.

This Application No. 09/893,292 (bearing 230 claims) is a continuation of the Application '378. The Examiner is requiring a restriction to 24 different invention groups, none of the invention groups are defined by having or not having a membrane, thus the current application teaches many inventions without a membrane and may also teach many inventions including a membrane, and inventions with novel applications of a membrane.

The Examiner is respectfully requested to examine the claims in light of the CyberMan disclosure which the Applicant describes herein and includes photographs for the Examiner's consideration. If the Examiner needs any additional information regarding CyberMan please contact Applicant or Logitech at the above listed address, or Applicant would be glad to supply a working example of the CyberMan (with screwdriver included:-) for the Examiner.

3. Another product on the market is a video game controller manufactured by Namco Ltd. The Namco controller is believed to have been the controller that was referred to as the "NEO GEO" controller in Application No. 08/942,450 now Patent 6,102,802, in paper no. 3, a Preliminary Amendment dated July 7, 1999 by the PTO and cited by Applicant at that time for an example of a two hand held controller with an analog button in the right hand area. The Namco controller has

POSITIONAL button sensors which were critically differentiated from Applicant's PRESSURE button sensors resulting in the now issued U.S. Patent 6,102,802. Of interest to the present claims the Namco controller is an image controller utilizing four rotary potentiometers. The printed material associated with the Namco controller has a copyright date of 1994 which Applicant assumes is the first time of sale to the public. Three photographs are included of the Namco controller.

Photograph 1 is of the top of the controller. In the left hand area is positioned a four-way cross key or rocker for operation by the user's left hand thumb. The rocker actuates four normally-open momentary-On On/Off only switches. Two shoulder buttons are positioned for operation one each for the user's right and left hand index fingers. Four individual buttons are embodied in the right hand area for operation by the right hand thumb. Two of the four buttons are normally-open momentary-On On/Off only switches. The other two of the buttons on the right hand area of the Namco controller are buttons structured to drive gears to rotate potentiometers. These gear-drive buttons are depressible only in a linear fashion, the buttons themselves do not pivot or rotate.

Photograph 2 is a picture of the Namco controller in an upside-down position with a housing bottom panel removed on the right hand side of the controller in order to show internal components associated with the two gear-drive buttons. The buttons rest on metal coil compression springs and the human user can depress the buttons with his right thumb. The metal coil springs return the buttons to a normally extended or raised position. The buttons are connected to rack and pinion gears to translate the linear travel of the buttons into rotation of a pinion gear, and the pinion gear is connected to the rotary shaft of an electrical rotary potentiometer.

Photograph 3 is a picture of the Namco controller in an upside-down position with both housing bottom panels removed to show the internal components of the controller. Four rotary potentiometers are utilized. The first and second rotary potentiometers are as described in Photograph 2 above. The third rotary potentiometer is utilized with a similar rack and pinion type gearing

with an individual button, this button being the shoulder button depressible by the user's left hand index finger. The fourth rotary potentiometer has planetary type gearing for sensing the articulation between the right and left hand areas of the Namco case. Of interest the three rotary potentiometers associated with depressible buttons are not embodied to act as bi-directional sensors as defined in the current specification. In contrast the fourth rotary potentiometer is embodied in the Namco controller as a bi-directional sensor, for example, the two case halves of the Namco controller can be rotated in two separate directions for the normally resting position. The Namco controller also has three circuit boards.

The Namco controller does not have a flexible membrane connecting to any circuit board. The Namco controller does not have a flexible membrane bearing circuitry. The Namco controller does not have any structure for active tactile feedback. The Namco controller does not have a motor and offset weight. The Namco controller does not have any pressure sensors. The Namco controller does not pressure sensors associated with individual buttons. The Namco controller does not have any pivotal or rotary buttons. The Namco controller does not have any single element structured to activate more than one rotary potentiometer.

4. Inventor Poulsom of German Patent DE4013227 published 05/29/1991 is of particular interest and therefore Applicant is setting Poulsom out here for special consideration by the Examiner especially in regards to claims 165, 181-185 of Applicant's U.S. Patent Application 09/893,292 and any future claims of Applicant's including a "platform" element or claims having a single two axes element combined with a motor and offset weight. Applicant believes Poulsom does not anticipate or make obvious any of Applicant's claims having a "platform" element for at least the reason that in Poulsom figures 2 and 3 joy stick 3 is a vertically structured element, not a "platform" (from applicants claims). In Applicant's claims a platform is a horizontally structured element with a greater dimension along the two axes of input than along the third axis, for

examples of a platform please see U.S. Patent No. 5,589,828 figure 2 platform 232 and U.S. Patent No. 6,222,525 figure 21 platform type element 300, figure 32 platform type element 423, figure 36 platform type element 500, figure 13 platform type element 222; and for further examples meeting Applicant's definition of a "platform" please see U.S Patent 6,428,416 figure 2 platform type element 12, figure 4 platform type element 201, figure 5 platform type element 301, and U.S. Patent 6,524,187 figure 16 platform type element 211.

5. Applicant further wishes to inform the Examiner that during licensing negotiations of Applicant's issued patents a third party corporation has presented to Applicant Japanese Utility Model Publication No. 5-87760 and Japanese Unexamined Patent Application Publication No. 7-302159 asserting full anticipation of many of Applicant's US Patents including Patent 6,102,802, Patent 6,135,886, Patent 5,999,084 and Patent 6,208,271. Copies of both of these Japanese references along with the English translations were supplied by the third party to Applicant and are included herewith for review by the Examiner. Applicant believes that all claims of the current application are not taught or suggested by these Japanese documents and requests the Examiner to treat these documents as if they are authentic. The third party argued that claim 12 of Applicant's U.S. Patent 6,222,525 was anticipated by U.S. Patent 4,246,452 to Chandler as Chandler discloses a hand held remote controller with a membrane sheet connecting the sensors of a two-axes input member with independent button sensors. The third party argued that Applicant's U.S. Patent 5,589,828 claims 15-18 were fully anticipated by U.S. Patent 5,207,426 to Inoue et al and U.S.Patent 4,469,330 to Asher. The third party also presented to Applicant Japanese Unexamined Patent Application Publication No. 63-29113 for another example of an analog sensor, and U.S. Patent 4,745,301 to Michalchik for disclosing a pressure sensitive material which is deformable elastomeric material having carbon particles used in a pressure sensitive switch with two electrodes.

Applicant does not agree with most of the third party assertions. This third party has recently proposed a lucrative business agreement with Applicant in

which it would agree to the validity of many of Applicant's above mentioned U.S. Patents.

6. During licensing negotiations with another party, that third party's Patent Attorney asserted US Patent 5,278,557 described a force sensitive control key (variable resistance controller) and a dome cap which provided tactile feedback. Upon review of the 5,278,557 patent Applicant finds that there is no description of the dome cap providing a snap or break-over threshold to provide a tactile feedback to the user as asserted by the third party. "Tactile feel" is mentioned one time in the '557 patent in regards to the amount of force that the user should or should not be required to press with his finger to cause varying in the output of the force sensitive control key.

The Patent Attorney also asserted that O'Mara of U.S. Patent 5,510,812 has a pressure sensitive 4-way rocker in a game controller not disclosed to be held by two hands of the user, and that aspect of O'Mara is relevant to Applicant's U.S. Patent 6,343,991. Additionally, that third party's Patent Attorney determined or agreed that the two hand held video game controller of Japanese disclosure JP 5-87760 (Furukawa discussed above) does not disclose pressure sensitive single depressible independent analog buttons in the right hand area as claimed in Applicant's '991 U.S. Patent.

The current claims have many elements in combination not taught or suggested by O'Mara or Furukawa.

7. Many of the claims currently pending in this application were previously included as claims in U.S. Patent applications No. 09/710,557 and No. 09/721,848 examined by the current Examiner D. Chow. Examiner Chow suggested as a matter of procedure to move all claims into the instant application. The Examiner has explained to Applicant 24 invention groups to which the currently pending claims will be restricted. Against many of the

pending claims the Examiner has held Ogata Patent No. 6,001,014 and Goto Patent No. 6,231,444 as prior art. The Examiner then determined that Ogata and Goto do not have a sufficiently early date to be considered as prior art. Applicant understands that: The Examiner asserts Ogata 6,001,014 and Goto 6,231,444 are relevant art with similar structures to all of the currently pending claims.

If the Examiner disagrees in any way with Applicant's understanding expressed in the above paragraph, then the Examiner is respectfully requested to state any such disagreement in writing. Thank you.

8. Some of Applicant's claims have a "passive tactile feedback" element or the like which commonly is embodied in Applicant's inventions as a dome element combined with a pressure sensor. Other similar language in Applicant's claims may be "snap-through" or "break-over" or "threshold" tactile feedback or the like, describing one or more elements in some of Applicant's claims in inventive combination with other elements. During examination of Applicant's claims having this feature the Examiner is respectfully requested to consider at least US Patent 5,164,697 to Kramer and U.S. Patent 4,786,764 issued to Padula, et al

The word "snap" occurs twice in the Kramer '697patent. Once in column 1 and once in column 1 lines 10-35 and again in column 5, lines 35-51. In Applicant's opinion, the snap or snap effect in the Kramer U.S. Patent 5,164,697 in each of the two occurrences refers only to the rapid or quick movement of the contacts relative to each other, and has nothing to do with tactile feedback to the user as was asserted by the third party.

Perhaps more relevant to the "passive tactile feedback" claim feature is U.S. Patent 4,786,764 issued to Padula, et al on Nov. 22, 1988 for the invention entitled DIGITIZER STYLUS WITH PRESSURE TRANSDUCER. The Padula patent describes an elongated stylus held in one hand similar to a pen or pencil

for writing on an electronic digitizer tablet. One primary problem sought to be solved by Padula is the elimination of spurious data inputs during signature verification from less than adequate pressing force by the human hand of the stylus tip against the digitizer tablet. To solve that problem Padula describes use of a pressure switch which includes a transducer in the form on an ink layer having electrical resistance which varies as a function of pressure. The transducer material is in contact with circuitry on a flexible material sheet. The pressure switch is located in the stylus wherein the force against the stylus tip is applied to the transducer. The variable output (analog output) of the pressure switch is read by processing electronics. The analog output changes with increasing force against the stylus, and when a threshold level change is detected data flow from the stylus is allowed. In other words, to solve the spurious data problem, the data flow from the stylus is provided only when the pressure with which the stylus tip contacts the digitizer tablet is above a predetermined value. A collapsible dome of metal in the stylus is arranged to collapse with snap action and provide tactile feedback to the user when the predetermined force is obtained. When pressure is removed from the stylus tip, the dome snaps back to its original undeformed state, ready for the next operation. Removal of the digitizer point from the tablet surface allows the stylus to return to a standby condition wherein no pressure is exerted on the ink layer. Thus while the pressure switch is described or used as an On and Off switch with the stylus actuated with sufficient force and deactivated with less force against the tip, in one embodiment of the invention, the part which is displaceable against the FSR (force-sensitive resistant) transducer when the pressure is applied to the stylus tip is resilient and substantially planar. The change in resistance of the transducer ink layer in this case is a function of pressure. In this way an analog signal is derived which is related to the force applied to the stylus tip. This analog signal can be used advantageously in mechanical or electrical drawing, where varying force indicates the use of or need for lines of varying thickness, for example, when digitizing a blueprint or circuit, in addition to the use already noted in connection with signature verification. In another embodiment of the

invention, the part which is displaceable against the transducer when the pressure is applied to the stylus tip is resilient and rounded, whereby the area of the part pressed against the transducer increases as the pressure increases. The change in resistance in this case is a function of both the pressure and the change in the surface area of contact between the displaceable part and the transducer. The Examiner is requested to read Padula for any additional relevant details. Thank you.

Applicant's claims generally have two different kinds of tactile feedback: "passive" and "active". The Kramer and Padula Patents are cited by Applicant regarding Applicant's claims having "passive tactile feedback"(e.g. pressure sensor and dome structure) and NOT regarding Applicant's claims having "active tactile feedback" (e.g. motor and offset weight).

9. Please consider the issue of double-patenting regarding this application and Applicant's other pending U.S. applications which can be readily located by a search of the PTO records for pending applications under the Inventor name of "Brad A. Armstrong". Applicant believes that the most important pending claims to review relative to the claims of this application are the allowed claims in U.S. Patent Application No. 09/715,532 examined in art unit 2675 by Examiner M. Moyer which has recently been continued as an RCE with the comprehensive prior art disclosure similar to this disclosure. Other pending claims which could be reviewed are in U.S. Pending application No. 10/028,071 in art unit 3713 and U.S. pending application No. 10/042,027 in art unit 3714, although all of Applicant's claims should be reviewed. Applicant would be happy to discuss each claim with the Examiner. If the Examiner wishes and requests such, Applicant would be more than willing to submit copies of all of his currently pending claims. If the Examiner believes that would be helpful, please do not hesitate in requesting such from Applicant. Thank you.

10. Please consider the issue of double-patenting regarding this application and Applicant's Issued U.S. Patents which can be readily located by a search of the PTO records for issued patent under the Inventor name of "Brad A. Armstrong". Applicant believes that the following U.S. Patents of Applicant's have at least some similarity and priority claims to U.S. Patent 5,589,828 as does the instant application and thus should be reviewed for double-patenting: U.S. Patent 5,565,891; U.S. Patent 5,589,828; U.S. Patent 6,222,525; U.S. Patent 6,310,606; U.S. Patent 6,344,791 and U.S. Patent 6,347,997. If the Examiner wishes additional information, please do not hesitate in requesting such from Applicant. Thank you.

Applicant realizes the instant application and this IDS are extensive and sincerely apologizes to the Examiner. The legal system regarding prior art disclosure, as presently determined by the courts, is a harsh master – expensive, time consuming and difficult – for an inventor who only wants to enjoy the fruit of his invention. Please examine the instant claims thoroughly so that Applicant may receive a valid and worthy Patent.
Thank you for your time.

Please do not hesitate in requesting anything from Applicant that might assist the Examiner.

Respectfully,

Brad A. Armstrong

Date: Dec 5, 2003